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AND
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Ada Booth

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ABOUT THE AUTHOR

Ada Booth teaches mathematics at the University of Santa Clara. She has enjoyed working with—and playing with—computers for many years, and has taught computer programming.

She has written numerous articles in various journals in connection with computers and education. In addition, she has been a newspaper writer and a magazine editor.

The IBM PC was her first microcomputer, obtained shortly after the PC became available. She is an active member of the Silicon Valley Computer Society, and headed their Science and Engineering Special Interest Group.

She is currently writing a beginner's guide for new *PCjr* and PC users.

ACKNOWLEDGMENTS

Members of PC Users' Groups were extremely helpful and informative. Many thanks to SVCS for letting us reprint its catalog of club library disks.

PC World magazine graciously gave permission to reprint recent lists of users' groups and IBM PC Bulletin Boards from their pages.

Electronic bulletin boards who deserve special mention and thanks include People's Message System, Santee, CA, for their exhaustive list of public access bulletin boards, and Frank Canova of Florida for his compilation of User-Supported Software.

INTRODUCTION

Since its introduction only a few years ago, the IBM Personal Computer has become immensely popular. As a result of its wide distribution, many kinds of resources have become available for users of IBM PCs and PC-compatible systems.

The very recent development of the *PCjr*, a lower-priced but compatible relative of the PC, increases the market even further. “Junior” may look different from its big brother, but it can use almost all the same software and perform most of the same functions, particularly if it has a disk drive and enough memory for the applications involved. In addition, *PCjr* introduces improvements and increased capability in the areas of graphics and music.

Programs to make your computer do what you want it to do, magazines specializing in the PC, help and instruction on how to solve YOUR problems—all are available to you, and many of them can be obtained FREE if you know where to look.

Equipment purchases can often be made more cheaply if you know about the various GROUP purchase opportunities. If you haven’t bought your system yet or are considering additions, read before you buy.

Whether you are a computer novice or an expert—or something in between—you will find useful and money-saving information in the following chapters.

Care and Feeding of Your Computer

Learn how to avoid unnecessary repair bills, as well as how to make your PC or *PCjr* computer more convenient to use.

Users’ Groups

Probably the most helpful single resource you can take advantage of is a PC Users’ Group. Joining a users’ group will give you access to free software, free instruction, group discount buying opportunities, and many other valuable services.

This chapter discusses, describes and lists users' groups. Learn what they are, how they work, where they are, how to find them, how to join one, and what they can do for YOU.

Free Software

Thousands of programs for your PC or PCjr are in the public domain. That means that you are permitted to use them, copy them, learn from them, adapt them and "customize" them to fit your needs even better—at no cost to you.

To find out what programs are available, what they can do, where and how you can get them, see the FREE SOFTWARE chapter.

Computer Magazines

Another source of information, programs and useful programming tips is available in computer magazines. Quite a few of the magazines are aimed solely at IBM PC users, while others which are more general in nature are featuring increasing amounts of material applicable to the PC.

You can get FREE trial subscriptions to one of the best of the current PC magazines, to a brand-new publication for PCjr users, and also to a magazine which serves as a reader's guide, indexing over 400 articles from other publications. See the chapter on magazines to learn how to get these, as well as for more information about computer journals.

Your Computer and the Telephone

Electronic "Bulletin Boards" have many uses, ranging from providing news and stock market information to offering you consultant services, as well as providing another source of free programs which you can obtain by telephone at home.

You will also be able to send or receive messages (electronic mail), share programs or information with friends who have computers, check on employment opportunities, or in some cases, even work at home instead of commuting.

In the chapter on bulletin boards, you will find how you can take advantage of these services. You will also find information about the equipment you will need and how it works, as well as lists of bulletin boards operated at no charge to the user.

Networking—Computers Linked to Each Other

This is one of the growing new trends in computer utilization, joining many computers in fast direct connection so that they can share information and resources readily. Read about it.

Freeware and User Supported Software

A relatively new development in distribution of programs, this might be called Honor System marketing.

Here is how it works. An author develops a program, often initially for his or her own use. Then the author, instead of marketing it commercially, makes it available to others to try out. You obtain a copy of the program, either by writing directly to the author or from some other source (copying is ENCOURAGED). Then you try it. If you decide you like the program and think it's useful, you're requested to send a modest check to the author.

Although the software isn't completely free, it costs much less than you would have to pay for an equivalent program under typical commercial marketing. Some of the most popular programs in recent surveys of user satisfaction have come from this category.

A Bonus—Free Programs Right in This Book

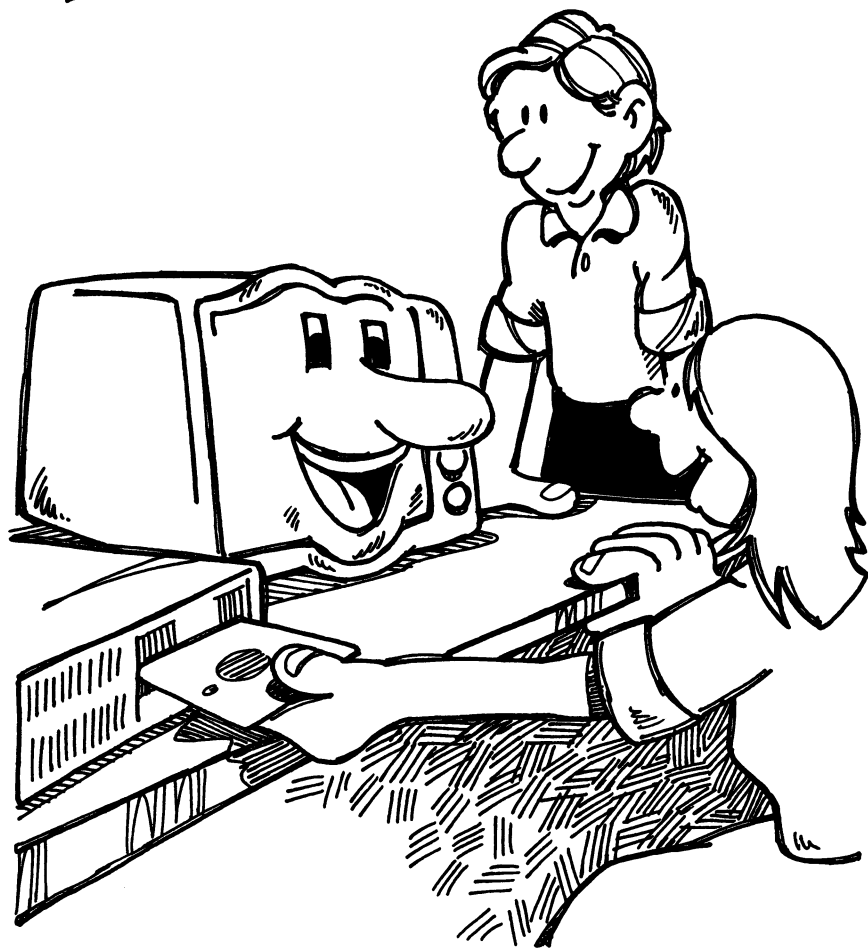
You will find some sample programs and useful routines written by the author and never published before. They are written in BASIC. All you will have to do is type them into your computer (carefully) exactly as they are printed. We explain what they do and how you can alter them or write similar programs yourself.

Updates

On a continuing basis, each time the book is reprinted, information which has developed since the last printing will be added in a special section at the back of the book.

Check the update section for the most recent additions.

CARE AND FEEDING OF YOUR COMPUTER



THE CARE AND FEEDING OF YOUR COMPUTER

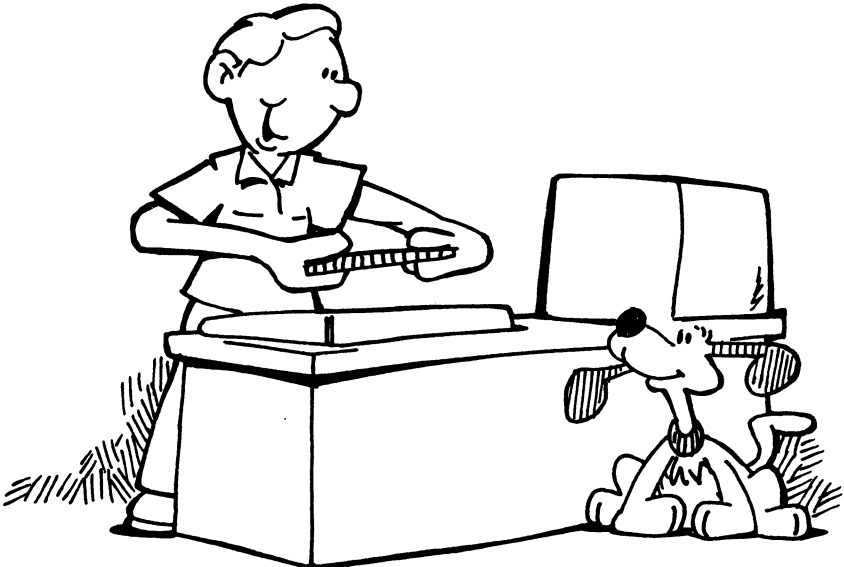
The only proper diet item for your computer is information. It reacts badly to cookies, coffee, crumbs, cola—or any other accidental input, no matter how nutritionally sound the food may be for people!

Avoid Repair Bills

To avoid unnecessary repair bills, the first rule should be: **DON'T** allow **ANY** food near the computer. If there's nothing there, nothing can get spilled.

When we talk about spillage, people usually think of children, but adults can represent just as great a hazard. So make the food-ban a rule in the office as well as the home.

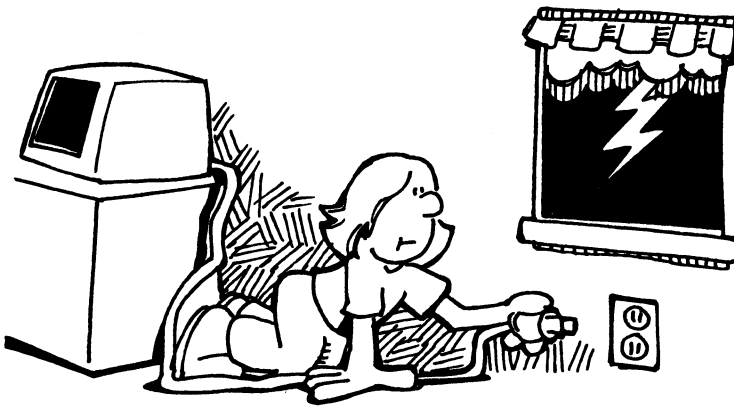
Other items can cause trouble (and have done so) by finding their unwanted way into the machine. Cat hair is an example. So if you have a pet which roams the area and might climb up, make sure you get a protective cover for your equipment. Plastic keyboard covers are available and useful. You can also obtain covers to protect other components.



Electrical Storms

This is a danger you might not have thought about until it was too late, like the member of the Wisconsin Users' Group whose warning message to other members appeared in the newsletter AFTER his modem was ruined.

Storm-caused electrical surges can severely damage your modem if it is left plugged into the power lines during a lightning storm. This can happen even though the equipment is not turned on at the time. The PC computer itself is less vulnerable, but it would be a safe rule to guard against trouble.

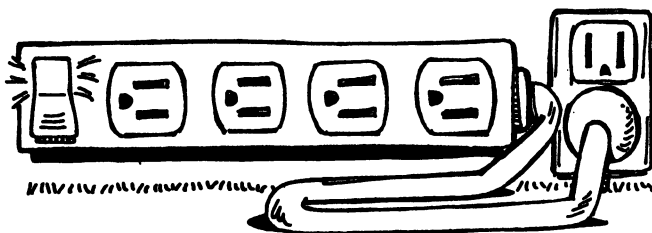


In case of electrical storms, **UNPLUG** your equipment unless you have installed some kind of special protection against this hazard.

Minimize Wear and Tear

When you think of all the switches you have to turn on and off every time you use the computer, two thoughts occur. One: it's a nuisance for you. The other: will the switches eventually give trouble?

A solution for both of these problems (which also simplifies the unplugging process in case of thunderstorms) is to buy a strip outlet which you can put in a convenient place on your computer table. It contains an on-off switch and several outlets for the power plugs from your computer, monitor, printer, modem, etc. You thus have only one item to plug into the wall outlet. You can leave all components ready for use, plugged into the strip.



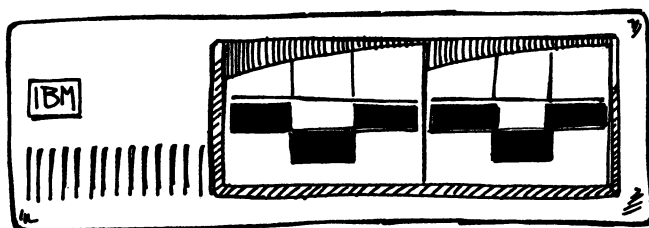
Result: No more reaching around to turn on three or four switches. One conveniently located switch turns on everything. (Of course, you can still use the individual switches to turn off specific components at any time.)

Parenthetical note: You may have heard that it is important to turn on the different items of equipment in a particular sequence, with the computer turned on last. Similarly, the old rule was to turn the computer off first. This is not necessary with the IBM PC, so don't worry about it. IBM says it's perfectly all right to turn everything on or off with one switch—or in any order you please.

The Disk Drives

When you are using the PC or PC-XT computer and a diskette is in position in the drive, the drive door must be closed (the center hinged tab pushed into the down position.) This closed position looks neat, and it is a natural thought to close the doors even when the drives are not in use.

Natural, but not right. Although no particular damage will be done by closing the doors, you can avoid unnecessary wear on the mechanism by leaving the drive doors **OPEN** when not in use.



For the **PCjr** the door position is more crucial. Junior uses a smaller, more compact “half-height” drive. IBM warns several times in their instructions that the drive door must **NOT** be closed when the drive is empty. This warning sounds worrisome, but it is not really a problem. After the manual was written, IBM decided to re-design the PCjr disk drive so that the door latch cannot be closed when the drive is empty. All production models have this protection against accidental closure.



The Keyboard

The same kind of caution that applies to a typewriter will be more than sufficient for taking care of the keyboard. Don't drop it. Don't drop objects on it. Control a passion for cleanliness which involves using cleaning solutions on the keys. (Spilling cleaning solutions is just as bad as spilling coffee or ashes.)

If small children are going to be using the machine or playing games on it, supervise them. Make sure they don't just bang the keys.

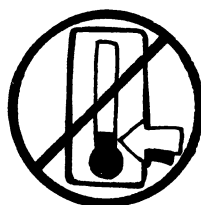
Disks—Protect the Information that Makes the Machine Work

If you turn on your PC or PCjr without a disk in place, it does come on and can be used for calculation and programming, since an operating system called “Cassette Basic” is built in.

However, if you have a PC or PCjr with disk drive, the overwhelming majority of your work with the computer will involve the use of “diskettes”, thin 5¼ inch “floppy disks” (i.e. non-rigid, as opposed to “hard disks”).

The diskette (or disk, as it's also called) can be used to store programs, which give the computer its instructions. Or it can store information for future reference. Clearly, it is vital to the successful use of your computer that such important resources be preserved.

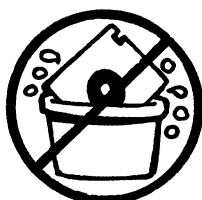
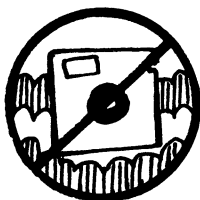
Fortunately, it is not difficult to care for your diskettes properly, so that they will continue to serve you well. The rules are very simple:



Avoid extremes of heat and cold. Any normal “room temperature” storage is all right, but don’t leave diskettes exposed to direct sunlight or near a heater. And don’t forget that the sun moves during the day, so a spot on a table near a window may be shady in the morning but not in the afternoon!

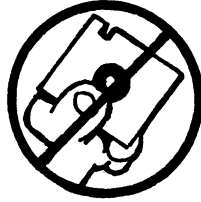


Don’t bend the diskette. If you are sending material “on-disk” through the mails, use a special diskette mailer. These are inexpensive and readily available, and will protect your disks from possible rough handling.



Keep the disk clean and dry. (If an accident happens, there is some possibility you may be able to salvage the information. An article in a user group newsletter spoke of carefully washing and drying a damaged disk. It might work, but don’t count on it.)

Never handle the disk by any part except the label end which you must hold when you move it in or out of the disk drive.



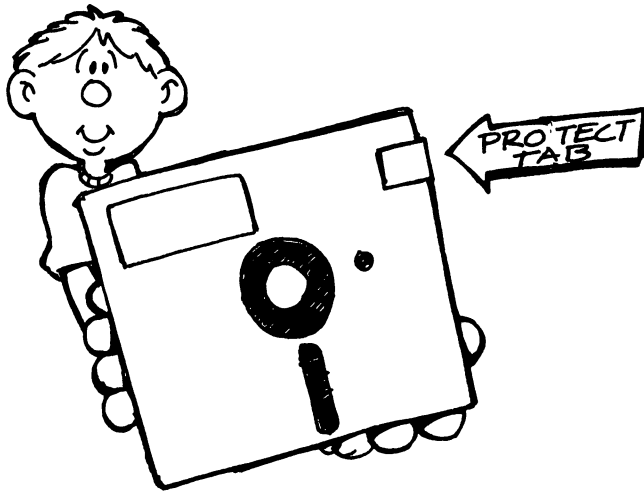
Since the information is recorded on the disk magnetically, it is important not to subject the disk to any unintended magnetic fields. Obviously you're not going to play with a bar magnet near the disk. But there are other magnetic fields around the house that you might not have thought of. Telephones, for example, have magnets. Often tools, like screwdrivers or scissors, are magnetized. Be aware of any electric motors in the vicinity of your disks as a possible source of magnetism.

The caution suggested is not difficult to exercise, once you are aware of magnetic sources. A distance of a couple of feet should provide an ample margin of safety.

If you are travelling by plane, **never** walk through the metal detector with disks. (The X-ray machine used to look at your hand-carry baggage should not do any harm. If you really want to play safe, however, simply hand the disks to the guard separately.)



And now for the most important safeguard: Make a backup copy of every disk that matters. Then, if you accidentally erase something while you are working at the computer (which is the most common mishap; we all do it at some time), you haven't lost the information. The backup copy is still there.



If you have a disk which you want to protect from any possible accidental erasure (in case some one else uses the computer with that particular disk), you can put a “write-protect” tab over the notch in the side of the diskette. The tab can be removed if you really want to make a change at some future time.

The most important and best protection, however, is a backup copy stored safely somewhere.

Here's a note of reassurance about a question that keeps coming up. You may have heard that you should never turn the computer on or off with a diskette in the drive. Although this caution used to be necessary with some computer systems, due to “transient” voltage changes which occur when the equipment is turned on or off, your PC does not have any problem in this regard.

You're quite safe in following IBM's instructions to put the DOS disk in the system before turning on the power. You can also turn the power off while a disk is in the drive. No damage will occur and no information will be lost.

The Screen

It isn't good for any television or monitor screen to have an unchanging image stay on for a long period of time. The same bright image that's good to look at will damage the phosphor of the screen if left alone long enough.

One way you can prevent damage is to make sure that you turn the monitor off or turn the intensity down if you walk away from the computer for any significant period of time. Unfortunately, this method is reliable only if no one who might turn on the machine is ever absent-minded.

It's too easy to leave "for a little while" and then get busy with something else. Most of the time you'll remember, but sometimes you may return hours later to find the screen still glowing brightly.

An excellent solution to the problem appeared in John Socha's December 1983 article in Softalk (page 81). He gave a listing for a program he developed which automatically turns the display screen off after a period of 3 minutes during which no key is pressed. (This program applies to the PC but not the PCjr.)

The display comes back on the next time you hit any key. This is a valuable utility, which could be placed on every system disk you use. (Note: There are a few programs which will not work properly with SCRNSAVE on. For example, you should not use SCRNSAVE when running the DRIVE game on page 190 , or the blinking cursor will be visible when it should be hidden. Very few programs, however, present any problems.)

Socha's SCRNSAVE will probably have found its way to club library disks by the time you read this, so you may not even have to look up the article! In any case, it's worth having. (As an incidental point, when you do press a key to return the display to active state, use one of the non-printing keys: i.e. shift key or "Alt" or "Ctrl", so you won't be printing anything on the screen.)

USERS' GROUPS



USERS' GROUPS

If you are not already a member of a PC Users' Group, probably the first thing you should do after reading this chapter is check the directory of current groups provided in this book.

See if there's a users' group located near you. Call the contact person listed and get the information about services they provide, special interest subsections, newsletters, club disks, meetings, etc.

Why?

Because this simple step will get you started on what may be the single most useful money-saving and frustration-avoiding action you can take to get more out of your PC.

What Are Users' Groups?

They are non-profit organizations. Their members include a wide variety of backgrounds and interests, and their experience with the PC (and, for many of them, with other computers as well) can help you. On the other hand, your experience and background may make you the ideal individual to help someone else. Everyone involved comes out ahead in this sort of sharing.

Problems members have had and solutions to the problems are brought up at almost every meeting during question sessions. General advice and specific advice are readily available.

Free Software—Club Disks

Most groups maintain library sections which provide free distribution of contributed software programs. Sources of the programs are varied. Some may have been written by members of the group; some originated as articles in computer magazines or newsletters from other groups; some are "public domain" (permission granted to copy and use) programs from electronic "bulletin boards". The club librarians decide to copy the programs they feel are of most general interest to their members.

Since computer users often have similar problems to solve (some of which stem from the shortcomings of the computer software as it was delivered!), many useful “patches” show up in club disks which solve particular problems.

For example, the DIR (DIRectory) command in the PC disk operating system (DOS 1) seemed designed to frustrate the user when asked for a listing of the files stored on a disk.

When the person who wanted to see what was on the disk requested the DIR, a list of the files began appearing on the screen, one title per line, in no particularly sensible order. With such a system, if you had more than 24 files, there was a problem. When the listing reached the bottom of the screen it kept on rolling, and the first files disappeared from view before you had a chance to read them. Clearly, a procedure like this can be infuriating.

That’s an example of one problem which plagued everyone who used a PC. How about the solution? The next paragraph describes a typical scenario.

Some knowledgeable user develops a program to solve the problem (in the case of DIR, provide an organized listing). SDIR, the new program, prints a heading showing which drive it is reading and how much free space is left on the disk. Then it presents an alphabetized list of the files, shown in two columns on the screen.

Since the new system is clearly superior, SDIR rapidly becomes a standard program available to club members all over the country. Most users put SDIR on almost all their disks, since it takes up very little space and is so handy.

Eventually, IBM realized that its DIRectory command could use some improvement, and later editions of its operating system (DOS 2) have made some improvements. The directory is still not alphabetized, however, and SDIR still provides a superior listing.

Many important utility programs have come from articles in computer magazines. SCROLLK, which was published in an article by John Socha in the May 1983 issue of *Softalk*, is an example. On request, it “freezes” the screen so you can look at it at leisure. When you are ready to continue, you

press a single key to get your choice of action, either advancing one line at a time, or one screenful at a time.

Other types of programs which are available through club disks include business and financial programs, games, educational software, demonstration programs, graphics, helpful printer utility programs, and a wide variety of applications software in many fields. See the chapter on *FREE SOFTWARE* for more details on club library disks—what's available (including a catalog), how to get them, and how to use them.

Special Interest Groups (SIGS)

When a group has fewer than 50 or so members, general meetings may be sufficient to deal with members' interests and desires for specific information. Few groups stay that small, however. An organization which may start with 20 members can easily find, a few months later, that it has more than a hundred. And within a year it may be twice that size, or even more.

For that reason, most groups organize special interest subgroups at the request or initiative of members. These SIGS usually meet once a month, at which time they have an opportunity to share information and questions on the specific topics which interest them.

Almost all clubs have a **NEW USERS' GROUP**, since new members have special concerns and interests which usually include learning more about how to use their machines. (Even people with much previous computer experience find it useful to get help and instruction on the PC from people who have already gone through the initiation process.) These groups provide **FREE** introductory information and instruction in an informal setting where you can get your individual questions answered.

Other SIGS can include groups interested in particular programming techniques, programming languages, communications, applications, or professions.

Now that the PCjr is on the market, clubs have responded to its introduction by planning new special interest groups focusing on that machine. For example, Silicon Valley Computer Society announced in its December 1983 newsletter that a PCjr SIG would be organized in February 1984.

The following listing of assorted special interest groups was compiled from various club newsletters:

Novice

Financial

Word Processing

Statistics

PCjr

Software

Education

Games

Medical

Communications

Science and Engineering

Business

Spreadsheet Modeling

Database

Hardware

Graphics

BASIC

PASCAL

COBOL

FORTRAN

FORTH

APL

ASSEMBLER

and many more!

Buy at a Discount

Most users' groups have group purchase sections which help members get both hardware and software at significantly lower prices. This feature alone can save you many times the cost of your club dues, which are typically between \$15 and \$30 per year.

If you haven't yet bought your computer, attend a meeting of a nearby users' group, talk to some of the members, and find out whether you can save money on the initial purchase of your system. The discounts can amount to hundreds of dollars. For example, group purchase prices quoted in a recent newsletter from Madison, Wisconsin represented savings of 30 to 40 percent.

You can also get valuable advice on choice of equipment, as well as recommendations of the better retailers. You may even find that you are entitled to discounts you didn't know about! (University staff or state employees, for example, can often buy equipment at discounts of up to 30%.)

How to Find a Local Users' Group

PC World and *PC* magazine both publish listings of PC Users' Groups periodically. No printed directory is going to be complete, however, since new clubs arise continually. Furthermore, smaller or less formally organized groups will probably not be included. It was estimated that there were some 400 active IBM PC Users' Groups in the United States at the beginning of 1984.

The users' groups directories do represent a good starting point, however, and we include one at the end of this chapter, reprinted by permission of *PC World* from their February 1984 issue.

Check the directory. If there is a group conveniently located for you, phone the contact person for more detailed information about meeting times, place, etc. If none of the listed groups are close enough, don't assume that none exist near you. Call the closest. They may know of others in your area which are not yet on the published lists. (For example, a recent phone call to Madison, Wisconsin, where only one group appeared in a November 1983 listing for the state, turned up three others which had been formed in 1983.)

Also check with your local retail stores which handle the PC. They will probably know about groups in their service area.

Suppose There Really Aren't any Nearby Groups?

This can happen. But that doesn't mean that you have to lose the advantages of membership.

Two options are open to you. If you're interested primarily in the regular newsletters, information, buying help and software available through the clubs, you can join a group even though you don't attend the meetings.

For example *Capital PC*, which started in 1982, for users in the Washington, DC area, now has over 2000 members, located all over the world. It is currently one of the largest PC groups in the United States, and its membership is increasing at a rate of about 150 per month. Its newsletter, *Capital PC Monitor*, is almost a small magazine. The club maintains numerous “bulletin boards” available to members by telephone from their homes, and plans to subsidize installation of at least one bulletin board for each Special Interest Group.

Silicon Valley Computer Society, a large California group, maintains a club software library which runs to well over 50 disks, with catalog and copies of desired disks available by mail, as well as at regular club meetings. In 1984 the club started to “publish” a catalog on disk, which could then be easily updated when new disks were added to the library.

See the chapter on *FREE SOFTWARE* for more about club library disks. We reprint an indexed catalog of the first 43 disks from Silicon Valley Computer Society.

Similar services exist at most of the larger clubs.

Or you might consider joining with a few other PC users and starting a group. This is not as hard as it sounds. All you need is to find a nucleus of five or six people who are interested in getting together for mutual help. Notices in appropriate places—computer-related businesses, universities, computer stores, education groups, governmental departments, newspapers (which usually like to print local coverage items of this sort)—should turn up others who share enough of your interests and concerns to start a group.

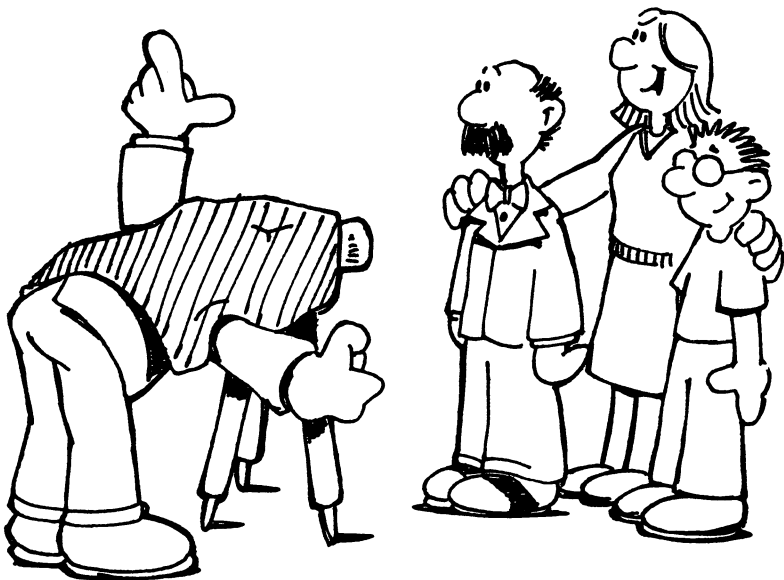
While you still have only a few people, the group can be quite informal. You don't have to worry about organizational detail and bylaws or places to meet. However, you will probably find that, once started, the group will grow rapidly. Then a more structured organization will be appropriate.

You don't have to start from scratch in this aspect of club organization. You can draw on the experience of other groups for help. Also you can check a detailed article on starting a users' group, from the February 1983 issue of *PC*.

USERS' GROUP SNAPSHOTS

There are far too many groups in existence to describe each one and its operations. Besides, there are many similarities among groups, despite differences reflecting the particular interests of their members.

So in the following pages we give brief descriptions of a few representative groups from different parts of the United States and Canada. The information was gathered from club newsletters and phone calls to club officers in late 1983 and early 1984. We chose some very large groups and some small ones for our sample, to show various styles of organization and operating philosophies.



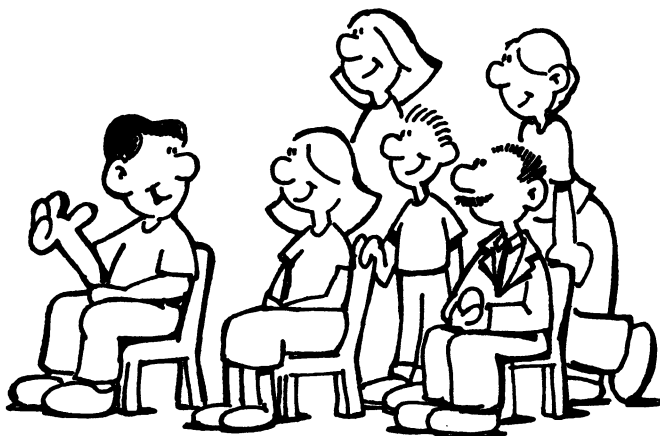
Since names of officers and telephone numbers of contact persons are subject to change, while club addresses are usually constant, the club snapshots do not list contact persons or telephone numbers. You can find that information in the user group lists. Actually, in the typical case, even if new officers have been elected, their predecessors will be able to give you information anyway.

SILICON VALLEY COMPUTER SOCIETY

P.O. Box 60506
Sunnyvale, CA 94088

The club was started in early 1982, and its history is typical of many of the clubs in high-technology or urban areas. Its first meetings were held in an auditorium at the Dysan Company which could hold over 100 people very comfortably. That seemed like plenty of room.

After a few months, standees became the rule at meetings, as word got around and potential new members came to find out about the group. Most of them joined, and membership increased rapidly.



By the end of 1983, membership had passed 700. The original copier-produced newsletter had grown to a full-size printed version. The club software library numbered about 50 disks. Three changes of meeting place for general meetings had occurred, with the continuing problem of finding a large enough auditorium. (Current meeting place, as of February 1984, is at the Westinghouse Engineering Theater in Sunnyvale.)

By the summer of 1983 it was clear that the sheer volume of the routine administration and organizational work had become too much for volunteers who were doing other things full-time. A retired member accepted a newly-created paid post as Executive Director, taking care of memberships, mailing out disks, getting the newsletter printed and mailed, etc.

All the other functions are done by volunteers, as before. The club publishes the monthly *SVCS NEWSLETTER*. Active special interest groups, meeting regularly, include:

Telecommunications

Software Tools

Business-Financial

Software Library

Graphics

New Users

FORTH

Other groups existed for a while during 1982 and 1983 to meet members' needs at the time. Among them were a science and engineering section and some other computer language groups.

Dues are \$30 per year. Club disks are available at meetings for \$5. They can be ordered by mail for an extra \$1.50 each to cover handling and postage. As they become available, new disks are described in the *SVCS NEWSLETTER*. An indexed catalog of the first 43 club disks was printed in 1983.

In February 1984 SVCS decided to start a new type of catalog. It is available on disk and can be updated regularly and quickly. It contains a CATALOG program so that users can search for entries in areas of particular interest to them.

CATALOG is a menu-driven interactive program with automatic search and retrieve features to locate entries either by disk number, file name, or description of the software. It thus serves as a sort of "intelligent index" to the library of programs.

ATLANTA IBM PC USERS' GROUP

P.O. Box 76516
Atlanta, GA 30358

This group has a membership of over one hundred, still within a size where it is practical to do most of the club's business at the monthly general meetings. Special interest groups are starting, however. In particular a Business Users' Group holds monthly sessions.

In the summer of 1983 the club set up an electronic bulletin board system. The equipment involved includes a previously-owned IBM PC, purchased by the club, plus donated equipment. Hayes gave the group a Smartmodem 1200, while Quadram (also an Atlanta area company) donated a Quad-board. A club member, Rod Roark, wrote the software for the bulletin board system. Other members supplied the phone line and "parking place" for the equipment.

The club offers classes and instruction for new users. A newsletter, *Atlanta PC News*, is published monthly for members. Dues are \$20 per year.



THE BOSTON COMPUTER SOCIETY IBM PC USERS' GROUP

P.O. Box 307

Wellesley Hills, MA 02181

This very large PC Users' Group is itself a sub-group. The more than 3000 members of this PC group form a section of the 9000-member Boston Computer Society. Annual dues are \$20.

The PC Users' Group publishes its own newsletter for members, *PC Report*. The monthly magazine, which runs about 30 pages per issue, provides phone numbers of relevant group chairmen or coordinators. It publishes detailed abstracts of new library disks, reports from the SIGS, articles and programs.

General meetings are held once a month, with typical attendance of 300 to 350. The club maintains a group purchase section, a "human resources exchange", and an active software exchange program, in addition to the following special interest groups:

ASSEMBLER

Accounting Software

Analog/Digital

Novice Tutorial

DOS/Communications

Hardware

BASIC

Visi Calc/dBase II

PC to Host Communications

Spreadsheet Modeling

Database

Word Processing

Scientific/Engineering

Junior

Selecting Business Software

PASCAL

Graphics

Club software disks may be obtained by mail for \$6, which includes disk, mailer and postage. Well-written, detailed abstracts describing the contents of library disks can be ordered for 5 cents each. As they become available, abstracts of new disks are listed in the club newsletter.

Two bulletin boards are accessible by computers via telephone, one provided by the Boston Computer Society, the other specifically for the PC Users' Group, at (617) 353-9312.

NORTHERN ALBERTA PC USERS' GROUP
37 Brunswick Crescent
St. Albert, Alberta
T8N 2K5 Canada

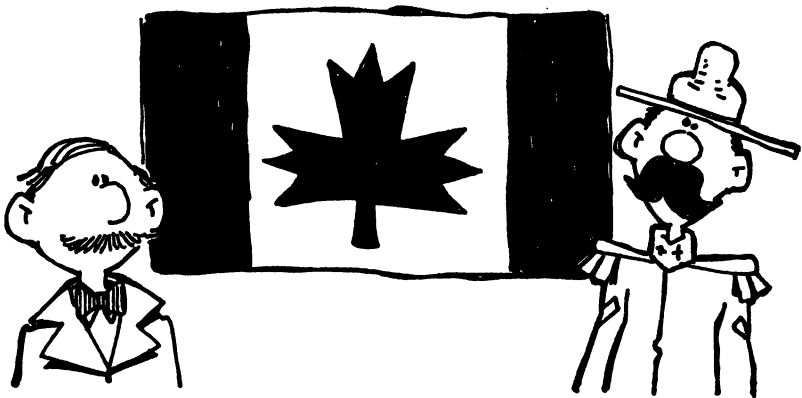
This is an example of a group which functioned informally for quite a while until October 1983, when it started its first meeting as an officially organized society.

Dues have been set at \$25 per person or \$35 per family membership annually. There is also an "associate" membership category for people who live too far away to attend meetings. Associate membership costs \$15 per year.

The society's first special interest group, organized at the initial meeting, is directed primarily towards the needs of new users. It will provide help and instruction in using the BASIC language. The group's chairman says this is only the first in what is planned to be a series of SIG formations.

The club provides copies of its software library disks to members for \$4 or \$5 per disk. Members with modems may access the club's bulletin board.

Membership totalled about 80 after the organizational meeting. Plans for 1984 include expansion of current services, including more special interest groups, publication and regular mailing of a newsletter, and more formal group purchase arrangements for members.



CAPITAL PC USERS' GROUP
P.O. Box 3189
Gaithersburg, MD 20878

This is one of the largest groups in the United States, with well over 2000 members in late 1983, and growing at a rate of between 100 and 200 new members each month.

Dues are \$25 per year for members within the country, \$40 per year for international members. The higher overseas fee is needed to cover the cost of international mailing of the *Capital PC Monitor*, a monthly publication of the group.

Because of the size of the club, two separate general meetings are held each month with the same agenda. One meets in Washington, DC, while the other meeting is held at a Virginia site.

Special Interest Groups are listed below (languages in capital letters).

Advanced

APL

BASIC

CEAM

COBOL

Communications

Data

Education

Federal Users

Financial

FORTH

FORTRAN

Games

Medical

Novice

PASCAL

Software

Statistics

Word Processing

SIG meetings are usually held once a month. Each SIG has a chairman whose telephone number is listed in the *Capital PC Monitor*. Most of the SIGs maintain at least one electronic bulletin board for computer-to-computer messages and information transfer by telephone.

In addition, the club maintains a special phone number which provides a "Hotline for Beginners" at (703) 978-0866 (Tuesday and Thursday 5-7 p.m., Saturday 1-7 p.m.) and another with recorded information about the club at (703) 978-1530.

Two group purchase sections exist to help members save money, one for hardware and a separate one for software.

Each month the club offers free classes, at which participants can learn more about various topics.

Club software disks are available at each monthly general meeting for \$5 each. If you wish copies by mail, a check for \$6 is required to cover the extra cost of the mailer and postage. Foreign members send \$7 to cover the extra international mailing cost.

A Bit of History

All this developed in about a year and a half. The club was formed in March 1982, after a planning meeting held in February at which thirty people showed up (about twenty were expected).

At the first regular scheduled meeting on Monday, March 15, 1982, a room was reserved which would hold seventy people. One hundred showed up. For the next month, the officers prepared by reserving a room with a capacity of 300.

The *Monitor* started as a 7-page newsletter produced by copier. The combined July-August 1983 summer issue, about one year later, ran 48 pages, in professionally-printed magazine format.

Useful Addresses

Capital PC Users' Group (Membership)
P.O. Box 3189
Gaithersburg, MD 20878

Capital PC Monitor
12009 Glen Mill Road
Potomac, MD 20854

Software Exchange
P.O. Box 6128
Silver Spring, MD 20906

Education SIG
P.O. Box 34210
Bethesda, MD 20817

CENTRAL TEXAS USERS' GROUP
325 Explorer
Austin, TX 78734

This group started in November 1982. One year later it had about 75 members, who pay annual dues of \$35.

Special interest groups include:

Languages (PASCAL, C, APL, ASSEMBLER)
Graphics (particularly applications to science and engineering)
Spread Sheets
Word Processing
Group Purchases

The club's software library disks are provided at \$4 each. The group does not have an exclusively IBM PC bulletin board, but shares a local bulletin board with other microcomputer users.

The group's newsletter, published monthly, is *PC Plus*.

MADISON IBM PC USERS' GROUP

P.O. Box 83

Madison, WI 53701

In January 1982 six people in Madison got together to discuss common concerns and interests regarding their PCs. A year and a half later, the users' group they started had a membership of over 300, increasing at about 30 new members per month.

Users associated with the University of Wisconsin make up about half of the group. The club maintains a bulletin board system, which had been so heavily used that getting connected became a problem. The group hopes that a new faster modem donated by a local computer store will speed things up enough to relieve some of the pressure.

Annual dues are \$15. The monthly newsletter, *Bits & PCs*, is in printed format. It contains about 24 pages of news and information, including highlights from the bulletin board messages (such as the fact that a well-known software company offers a 90% discount if their program is being bought for educational purposes). Other articles explain how to increase the usable speed of a modem, how to make changes in some popular word processing programs to improve their functioning, and other brief but useful notes in answer to questions.

Special Interest Groups include:

New Users

Database

Graphics

Laboratory and Scientific

Spreadsheet

System Level

Word Processing

The group purchase committee achieves significant savings for members, with discounts of up to 40%. A software/hardware review committee gets samples of programs and equipment and writes evaluation reports.

The program library makes disks incorporating popular public domain software available to members for \$5 per disk.

GREATER CINCINNATI IBM PC USERS' GROUP

P.O. Box 3097
Cincinnati, OH 45201

This group, sometimes referred to as ACORN (the name of the club's monthly newsletter) was started in the summer of 1982, when some 25 people got together at the local Computerland store.

It is one of the clubs which maintains an active special interest group for young enthusiasts. The children's section caters mostly to 12 to 16-year-olds. A primary interest in this group is, as one might expect, games. However, a number of the students progress to other computer concerns, becoming more interested in programming.

Other special interest groups, as of November 1983, were:

Novice
ASSEMBLY LANGUAGE
C
PASCAL

University of Cincinnati
Stocks Analysis
Spreadsheets
Word Processing

Membership of the group was up to about 270 people in November 1983. Annual dues are \$15.

The club maintains a software library exchange, with disks available at meetings for \$5 each. Descriptions of new library disks and the programs they contain are published in the monthly club newsletter, the *Acorn*.

The Novice SIG, in addition to instruction offered at its regular monthly meetings, provides the newsletter with a section called "Beginner's Corner". Careful and well-written explanations help the new user understand how to operate the computer.

The club members can access an electronic bulletin board located on the campus of the University of Cincinnati.

Members can take advantage of savings through group purchase arrangements.

PORTLAND IBM PC USERS' CLUB

P.O. Box 2068
Beaverton, OR 97075

The Portland Club was started in the Spring of 1982 with twenty or thirty members. A year and a half later, the membership is now up to 225. All the work on the club's various functions and special interest groups is done by volunteers, so the members prefer not to let the organization grow too large. Therefore the club is considering a split into two separate groups, one for East Portland and one for the western area.

Dues are \$20 per year. A club software library includes about a hundred disks, many obtained in software exchanges with other users' groups throughout the country. Cost of disks is \$5 to members, \$8 to non-members.

The club does not maintain a formal group purchase section, but does provide some services. Diskettes and keyboard covers are purchased and resold to members by the club. Also the group bought a re-inking machine for members' use, so they could re-use their old ribbons rather than having to buy new ribbon cartridges for their printers.

Active Special Interest Groups include:

Business Applications

Data Base Management

Education

Spread Sheets (Visicalc, Supercalc, etc.)

Graphics

Graph/ Plotters

FORTH

ASSEMBLER

COBOL

C

PASCAL

BASIC

FORTRAN

General meetings are held once a month. The newsletter is sent to members each month in advance of the meeting. No club electronic bulletin boards are maintained at present.

COLUMBIA PC USERS' GROUP

c/o Jennifer DuPont
1560 Daniel Boone Blvd.
Columbia, MO 65201

This group started unofficially in October 1982, on the initiative of a computer retailer in Columbia. It later became an officially organized club.

Columbia is not a large city, although it is the site of the University of Missouri. Therefore, the club membership has remained small, about 50. This means that the monthly general meetings are not too large for convenient exchange of information, as well as for more formal programs.

The club meets in a room on the University campus, which is available at no charge to the group. Dues are \$20 for students, \$35 for others. Various backgrounds are represented among the members, although education is the most common. Software exchange is done at meetings. Members bring their own disks and make copies of club materials, at no charge.

Special interest groups:

Educational Research

Graphics

Word Processing

Business and Professional

Languages

The subgroups are small enough to meet on an informal basis at member homes.

A newsletter for members is published bimonthly.

NEW YORK IBM PERSONAL COMPUTER USERS' GROUP

c/o Eric Jaffe, M.D.
Cornell University Medical College
1300 York Avenue

The New York club was started in early 1982. It now has about 1450 members. Dues are \$10 a year, among the lowest of the groups surveyed. They report that this dues structure has been adequate because of the income gained at each meeting from sales of disks from their software library. Members can also order disks by mail at a cost of \$7 per disk, together with a self-addressed stamped diskette mailer.

Members who contribute disks with original programs suitable for addition to the library are entitled to receive a club disk free.

The club maintains a group purchase section and a club bulletin board accessible by modem.

Special interest groups are:

APL

Architects

ASSEMBLER

BASIC

Beginners

C

Communications

Corporate Sector

Data Base Management

Graphics

In-House User Groups

Investments

Medical and Scientific Applications

System Design

UCSD P-SYSTEM PASCAL

Word Processing

A monthly newsletter of about 30 pages goes out to members at the beginning of each month. It contains advertising, hints, programs and articles in addition to names, addresses and phone numbers for SIG chairmen and calendar of events of interest for the month. Classes, expositions, conferences, and other computer club meetings appear on the calendar as well as the various activities of the NYPC Users' Group.

User Group Directory

PC World publishes a User Group Directory every month. If your group is not in this list but would like to be, send the group's name, address, contact, and other information to *User Group Dispatch*, *PC World*, 555 De Haro St., San Francisco, CA 94107.

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IBM-PC SIG
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Tucson IBM PC User Group
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Central Texas User Group

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262

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817/270-2760

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San Antonio, TX 78223
512/333-7163

Tyler IBM Club
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801/487-5228

Utah ComputerLand
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IBM PC-Tidewater User Group
Vic Freeman
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Northern Alberta PC User Group
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Personal Computer Association
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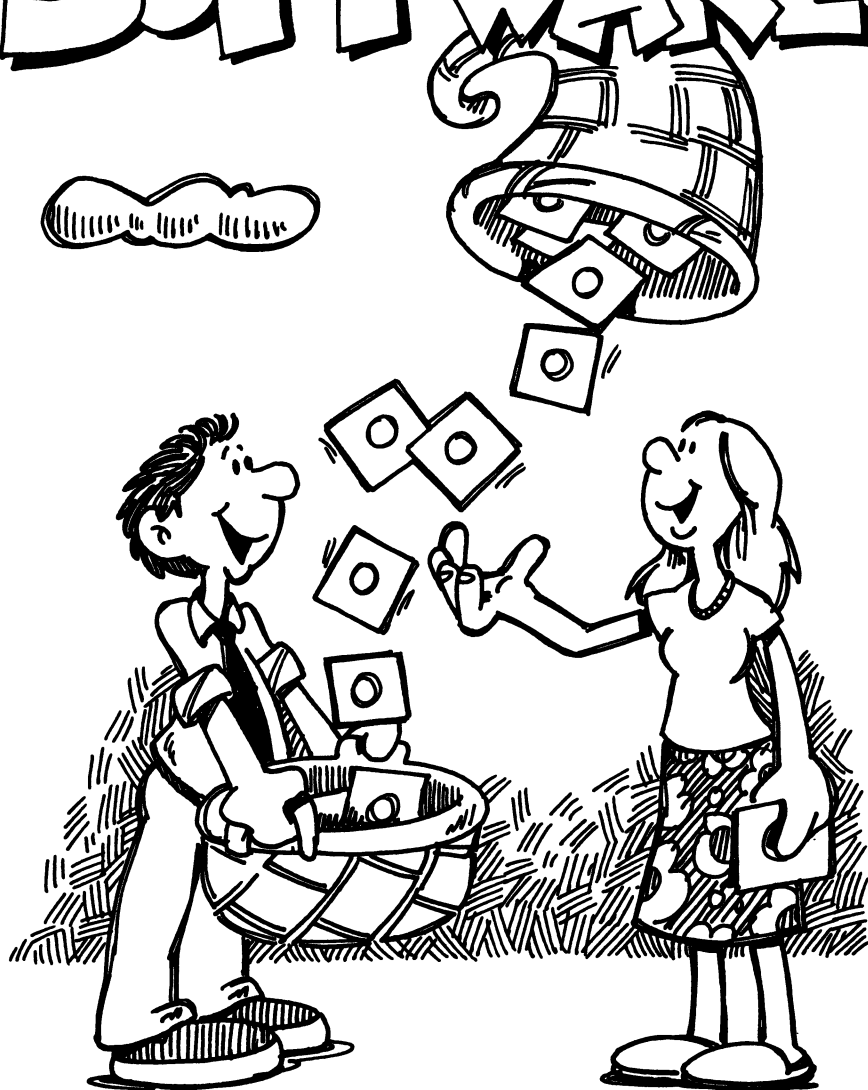
France

Mikro-Cerio
Jean Roch
134 bis, rue du Vieux
Pont de Sevres
Boulogne, France 92100
609.94.14

Japan

Tokyo IBM-PC Users Group
Takashi Ohtsuka
2-27-13 Jingumae
Shibuya-Ku, Tokyo 150
03/404-0593 ●

FREE SOFTWARE



FREE SOFTWARE

Thousands of programs are available for you to use legally. You can copy them, adapt them to your purposes, share them with others—all as you see fit. No “computer piracy” or infringement of copyright laws is involved.

We are talking about public domain software. Public domain programs can come from many sources. Magazine articles provide some. Computer books (this one included) often publish program listings which you need only type in properly on your own computer (and SAVE) to add to your own files of programs.

If you have a modem (a device which enables your computer to communicate with other computers by telephone), you can get many free programs from electronic bulletin boards or from other computer users with whom you can communicate by phone. (Note that even if you have a PCjr without a disk drive, you can still use a modem to get programs which you can SAVE to your storage device.)

Or you can use what is probably the simplest method of acquiring programs: share and copy programs from disks. You can swap programs with friends or colleagues in the same professional field or you can take advantage of the large variety of software available on club library disks. The only requirement for this method is that you have a computer equipped with a disk drive.

In some fields (education, for example) you will find many groups especially set up to share computer software. Check the resources available to you at work.

Club library disks include programs of many types. Special Interest Groups within the clubs provide another good source of programs that you might want.

Most of this chapter consists of a catalog of programs available from the Silicon Valley Computer Society, reprinted by courtesy of that group. Other club libraries may contain different programs, in line with the interests of their members. They will also probably have some of the same software, since there is a good deal of sharing among the users' groups.

You often have a choice between getting disks at meetings or ordering them by mail. In any case, when you get your new software home, there are some things that you should know before you happily slip the disk into the drive slot, turn on the computer, and find that your machine won't accept the gift you just brought it.

The library disks do not contain the "operating system" which is needed to run the computer. There is a reason for that. The operating system is copyrighted, and a license fee would be required if it were included on the disk.

No problem. First you should cover the notch on the library disk with a write-protect tab to ensure against accidental erasure. Next turn on your computer with your regular system disk in place. Then, after your machine accepts its running instructions, you can insert your new club disk and see what programs are on it by calling for the directory (DIR in the DOS command).

The next thing you ought to do is format one of your own blank disks with the `FORMAT/S` command. If your club disk contains programs written in BASIC you will also need to copy either `BASICA.COM`, which will run all BASIC programs, or `BASIC.COM` (if the advanced features aren't necessary and you want to save memory space). Now you are ready to make your own working copy. Use the `COPY *.*` command to put all the files on your prepared disk.

Now you will have a working disk to use, and you can put away the library disk as a backup copy.

The same instructions apply to user-supported software or disks ordered from magazines.

S V C S
SILICON VALLEY COMPUTER SOCIETY
PO Box 60506, Sunnyvale, CA 94088

C A T A L O G O F D I S K E T T E S # 1

These diskettes contain programs made available to SVCS members. Commercial sale of any program is expressly prohibited. SVCS encourages contributions to the authors of programs distributed under the "freeware" concept. There are no restrictions on duplication of these disks, however, contributions in support of the librarian function would be appreciated.

Most diskettes are formatted /1/8. Diskettes 5, 40, and 41 are double sided 8 sector. Diskette 15 (MVPFORTH Screens) is not a PC-DOS diskette. No provision has been made for putting SYS files on SVCS diskettes. A number of the utilities were written for a specific version of DOS. In a few cases programs may be sensitive to a ROM variations.

Some diskettes are devoted to a single major software package. PC-TALK, PC-FILE, RatBAS, KERMIT, MVPFORTH are examples. Such diskettes will be updated as new releases are obtained.

In general, the first order of business will be to TYPE the README.xxx file. A + before or after the extension indicates color/graphics is required. Next .DOC, .TXT, .HOW files should be read for further information. Normally .BAS files are in tokenized form readable by BASIC or BASICA. In many cases listing .BAS files with the interpreter will reveal extensive REM documentation.

Programs have been assimilated from many sources including bulletin boards and diskettes from other clubs. SVCS particularly encourages submission of original programs. Such programs make a positive contribution to the growing supply of quality non-commercial software which plays an important role in making the IBM PC the better choice.

Cross Reference	
Old ADX	New SVCS
No.	No.
001	21
002	22
003	23
004	24
005	25
006	26
007	27
008	28

Cross Reference	
Old ADX	New SVCS
011	29
012	30
014	31
015	32
016	33
017	34
018	35
019	36
020	37

Notes: ADX009 was recalled.
ADX010 was never released.
ADX013 duplicated SVCS 5.

SILICON VALLEY COMPUTER SOCIETY Disk No. 1

PATTERNS BAS+ Generates random patterns on color monitor
BLACKJCK BAS Blackjack game on the monochrome display
YAHTZEE BAS Yahtzee game on the monochrome display
MENU BAS Menu for selecting programs on this disk
DOTS BAS Displays dot patterns for display characters
HATDANCE BAS Plays the Mexican Hat Dance song
KALEID BAS+ Generates random patterns on the color display
MAXIT BAS+ Number game
STRINGS BAS+ Generates random patterns on the color display
WOMBAT BAS Generates word problems
CIRCLE BAS+ Draws random patterns on the color display
OTHELLO BAS Othello game
PONGPONG BAS Pong type game
COPYOVER BAT copies games from DOS 1.0 or 1.1 disk
COPYOVER DOC description of how to use COPYOVER.BAT

SILICON VALLEY COMPUTER SOCIETY Disk No. 2

MSPOOL COM Print spooler for monochrome/printer adapter
CSPool COM Print spooler for printer adapter
DISKMOD BAS Utility to examine and modify disk sectors
SDIR COM Displays the directory on one screen
CLEAN COM Exercises disk when using a cleaning diskette
GRAF2 COM Graphic screen dump using the PrtSc key
MONITOR Toggles between monochrome and color display
CR BAS Cleans up downloaded BASIC files
KYBD BAS Outputs keyboard input to the printer like a typewriter
SYSTAT COM Displays system status
PROGRAM DOC Details on running the programs on this disk
STARTREK BAS Guess
CLS COM Clears the screen from DOS
ADDCR BAS Adds a carriage return to each line in a text file
LISTER BAS Generates a formatted listing of BASIC programs
NEWKEY BAS Reassigns the ten function keys
CROSSREF BAS Generates a crossreference listing for BASIC programs
UNPROT TXT Procedure for unprotecting BASIC programs
HEXCONV BAS Converts binary files to ASCII for transmission
HGRI EXE Graphics screen dump using PrtSc key

SILICON VALLEY COMPUTER SOCIETY Disk No. 3

RT EXE The RatBAS Translator.
RT UM User's Manual for RT.EXE.
RATBAS UM User's Manual for the RatBAS language.
RATBAS TXT Paper on RatBAS by the authors. The RatBAS article in
PC Magazine Vol 1 No. 6, Oct 1982 is a slightly edited
version of this paper.
TEST RAT A sample program written in RatBAS.
SORT INC An 'include' routine which will be used by TEST.RAT.
TEST BAS TEST.RAT after being processed by RT.EXE. This is an
ASCII file which may be read by the BASIC interpreter or
the BASIC compiler. It is also quite readable by humans.

```

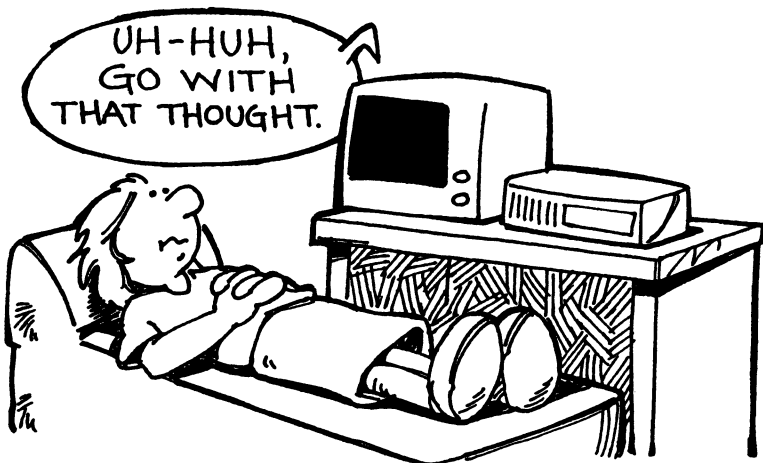
*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 4
*****
DBMENU  BAS  Menu program for Data Base Management System (DBMS).
CREATE  BAS  Part of DBMS
INSERT  BAS  Part of DBMS
LOOKUP  BAS  Part of DBMS
SCREEN  BAS  Part of DBMS
DUMP    BAS  Part of DBMS
BACKUP  BAS  Part of DBMS
CHESS   EXE  Chess program.
SURVIVAL BAS  Adventure type game. Survive a crash landing on the moon.
SATURN  BAS+ Graphics demo. The ringed planet with orbiting moon.
CATCH88 BAS  Catch falling goodies. Improve typing skills.
METEOR  BAS  Arcade type game. Eat goodies while dodging meteors.
HANGMAN BAS  Popular word guessing game.
ELIZA   BAS  Talk your problems out with ELIZA the psychotherapist.
MODEM7  COM  Communications & file transfer program adapted from CP/M.
MODEM7  DOC  Documentation file for MODEM7.COM.

```

```

*****
SILICON VALLEY COMPUTER SOCIETY                               Double Sided  Disk No. 5
*****
PC-FILE EXE  PC-File main routine
PC-SORT  EXE  PC-File sort utility
PC-PRINT EXE  PC-File list/print utility
PC-MERGE EXE  Program for merging two similar but separate databases
PC-EXPOR EXE  Program for exporting to WordStar, VisiCalc etc.
PC-UTIL  EXE  Alternate to use of certain PC-DOS utilities
FILEFIX  EXE  Program to repair damaged databases
AUTOEXEC BAT  batch file for booting PC-file
PC-FILE  DOC  PC-File documentation
DOC       BAT  batch file for printing PC-FILE.DOC
PRT       CTL  part of PC-File
PRT40     CTL  part of PC-File
PRT80     CTL  part of PC-File
SAMPLE    BAS  List for example of interfacing with a PC-File database

```



```

*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 6
*****
CHARS    BAS    Full character set display. Color or Monochrome card.
CHARS    EXE    Compiled, stand alone version.
GDUMP    BAS+   Med Res graphics to C.Itoh 8510/NEC 8023 printers.
GDUMP    EXE+   Compiled, stand alone version.
FREE1    EXE    ELECTRONIC DISK-Generates 160KB RAM drive. (256KB rqd)
FREE1    BIN    Part of ELECTRONIC DISK.
FREE1    DOC    Documentation on above.
FREE3    COM    NEW RESET - Softer resets save RAM drive data.
FREE3    DOC    Documentation on above.
COLOR40  COM+   DOS switch to colorgraphics 40 col text mode.
COLOR80  COM+   DOS switch to colorgraphics 80 col text mode.
COLORG   COM+   DOS switch to colorgraphics med res graphics mode.
MONO     COM    DOS switch to monochrome 80 col text mode.
PROFILE  BAS    Generates PROFILE.MEM See PC MAGAZINE, Oct 1982
PROFILER BAS    Demos use of PROFILE.MEM
STARLANE BAS    2-4 players invest in interstellar trading & shipping.
DCBA     HOW    Patch to DISKCOPY for production copying.
KB FLAG  BAS    Software control of keyboard modes. [TUTORIAL]
GUIDE1   REF    Reference Guides - DOS, BASIC & Volkawriter function keys.
GUIDE2   REF    Reference Guide - C.Itoh/NEC command codes.
           [A>TYPE fname CtrlPrtSc Enter]-require C.Itoh/NEC printer.
NUM-WORD BAS    Routine converts numeric value to literal expression.
PRTSET   BAS    Printer setup program for C.ITOH/NEC printers.
GRAFHAT  BAS+   Draws "industry standard" graphic pattern in HiRes mode.
GRAFHAT  EXE+   Somewhat faster compiled version of above.
ZELLER   BAS    Determines day of week using Zeller's congruence.
CNTRLBK  BAS    Demos CtrlBreak disable & imbedded protect/unprotect.
CHECKOUT BAS    Checkout various ports, devices. Strong on modems.
STICK    BAS    Displays joystick/paddle gameport values.
ACRS     BAS    Accelerated Cost Recovery System, Creative Computing 2/83

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 7
*****
EXPLIST  EXE    :EXPANDING LISTER FOR BASIC PROGRAMS
EXPLISTR EXE    EXPANDING LISTER REQUIRING COMPILER RUNTIME LIBRARY
EXPLIST  DOC    DOCUMENTATION FILE
EXPOPT   EXE    OPTIONS FILE
EXPMAIL  EXE    GENERATES A REPLY/CONTRIBUTION LETTER TO AUTHOR.
PRINT    BAS    PRINTS ASCII FILES WITH TITLE BANNER AND PAGE #'S
PRINTNEC BAS    SAME AS "PRINT" FOR NEC 8023/C.ITOH 8510 PRINTERS
BIHEX    BAS    CONVERTS BINARY FILES TO ASCII HEX AND BACK AGAIN
LP        COM    DIRECTORY LIST SORTED ALPHABETICALLY BY EXTENT & NAME

```

```

*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 8
*****
CROSSREF EXE    :EXTENSIVE CROSS REFERENCE GENERATOR FOR BASIC PROG.
CROSSREF DOC    DOCUMENTATION FILE
CRMAIL    EXE    GENERATES A REPLY/CONTRIBUTION LETTER TO THE AUTHOR
CROSSOPT   EXE    OPTIONS FILE
CROSSWDS  DAT    DATA FILE
MONITOR   BAS    BASIC SUBROUTINES FOR FORMATTED SCREEN DISPLAYS
MONITOR   DOC    DOCUMENTATION FILE

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 9
*****
ACATALOG BAS  A catalog of the programs on this disk (items 1-31)
ASCICHR BAS   Display or Prints primary and alternate character sets
ASCII BAS     A chart of ASCII Characters (Decimal)
AUTOINST BAS  Prints Autostart Program Instructions (AUTOST.BAS)
AUTOPEEK BAS  Displays 10 locations of memory in Dec or Hex
AUTOST BAS    Sets Date and Time, Displays Files and Runs program
CHECKOUT BAS  Checks Serial and Parallel equipment & handshake
COLORSET+BAS  Displays color options on a color monitor
KEYSBAS BAS   Programs Function keys for Basic and Prints OVERLAY
KEYSMP BAS    Prints a Function Key OVERLAY for Multiplan programs
LONGZONE BAS  Computes GMT (UCT) and Local Time for any longitude
MENU BAS      Runs AUTOST.BAS program
MINIPROG BAS  A Skeleton Basic program used to start a new program
MODULO BAS    Demonstrates Modulo Arithmetic
MONOSET BAS   Displays Screen options for the monochrome monitor
NUMVERT BAS   Displays numbers in ASCII, DEC, OCT, HEX, and BINARY
OPKEYS BAS    Programs the Function Keys for basic programming
PAYMENT BAS   Computes Payment for a fully amortized loan
PEEK BAS      Peaks at a location in memory
Q BAS         Returns to DOS with a clear screen and keys reset
REAL$ BAS     Displays and Prints a table of Real Estate Appreciation
SYS BAS       Returns to DOS with a clear screen and keys reset
TIME BAS      Displays system date and time on the screen
! BAS         Boots up Basica and AUTOST from DOS
AUTOEXEC BAS  Boots up Basica and AUTOST from power ON Startup
STARTUP BAS   Transfers DOS and Basica from DOS Disk in B to Disk in A
2COLOR +COM   Transfers to Color Graphics Adapter and Monitor from DOS
2MONO COM     Transfers to Monochrome Adaptor and Monitor from DOS
DISKID REV    Contains Disk ID Label and Year for AUTOST program
2COLOR +SYS   Transfers to Color Graphics Adapt and Monitor from Basica
2MONO SYS     Transfers to Monochrome Adaptor and Monitor from Basica
INDEX DOC     This contains details on the following files: 48-56
MDM7I COM     This is a MODEM and TERMINAL file transfer program
MDM1BM ASM    Part of MDM7I.COM above
MDM7 DOC      This describes how the modem program is to be used
CRCK4 COM     This is a file checksum program
CRCK4 CPM     Part of CRCK4.COM above
LOOK COM      This is a memory byte search program
FIND COM      This is a disk file string search program
WASH COM      This is a disk maintenance program
WASH DOC      Documents WASH.COM
SQUISH BAS    This program removes spaces, REM's and condenses lines
SQUISH DOC    Documentation on SQUISH.BAS

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 10
*****
CHASM BAS     Cheap ASsEmbler. Version 1.7
CHASM BAT     Starts CHASM. BASIC or BASICA must be on the same disk
CHASM DAT     Mnemonic data file.
CHASM DOC     Documentation file.
CHASM OVL     Empty file used to fool BASIC to free memory space.
CLS ASM       Example assembly language program to clear the screen.
TCHASM BAT    Creates new CHASM disk.

```

 SILICON VALLEY COMPUTER SOCIETY Disk No. 11

BIGTYPE BAS Displays character set in large block font.
 DDATE COM Allows quick updating of date and time on bootup.
 DISKMODF BAS Improved version of disk sector modifier program.
 JUMBLE BAS Permutes jumbled words.
 PALLETTE BAS +Displays colors available in low res(160x200) graphics.
 SPEED411 COM Sets disk step rate to 4 ms. Test with format and copy.
 TIMING BAS Accurately times the execution of short BASIC programs.
 HALS DOC Doc on BIGTYPE, DDATE, DISKMODF, JUMBLE, PALLETTE, SPEED411, TIMING
 LF COM Directory lister sorted by extension & filename.
 VDEL COM Provides for OK's when doing wildcard deletes.
 CD COM Sets default drive and .NAM file info and sorted dir.
 WAIT COM Batch file PAUSE for three seconds.
 GUMUP1 DOC Doc on LF, VDEL, CD, WAIT.
 SYSTAT COM Status report on all drives incl. info from .NAM files.
 SYSTAT DOC Documentation on SYSTAT.COM.
 FK COM Function key handler (with reset) for DOS 1.0 & 1.1 .
 FK DOC Documentation on FK.COM.
 SD COM Directory lister, 4 up.
 SDIR EXE Directory lister, 2 up.Slight upgrade of SDIR.COM on SVCS002
 UNPROT2 DOC Ultra simple technique for unprotecting BASIC programs.
 ARTILL BAS +Artillery for two, random terrain & winds. Quite good.
 GRAFGE BAS +Uses graphic screen to developpe your own ASCII 128-255 set.
 GRAFGE DOC Documentation for GRAFGE.BAS.
 MEMPEEK BAS Similiar to disk modify programs except for RAM memory.
 SQUISH SRC Upgrade of SQUISH on SVCS009, modified for compiler.
 SQUISH EXE Compresses BASIC programs, removes REM's, etc.
 SQUISH DOC Documentation on SQUISH
 GSDUMP BAS +Graphics Sideways memory DUMP to C.ITOH 8510 (or NEC8023).
 COLOUR DOC Tutorial + small routines re Artificating, HIREs color, 16-color
 GPCPRO DOC Tutorial -BASIC PrtScr, Printer bit graphics, Keyloc
 RESCMD BAS Generates resident COMMAND.COM. Banish 'Insert DOS disk in--
 RESCMDCK BAS Resident COMMAND.COM with BEEP, PAGE, CLS. Requires clock.
 RESCMD DOC Documentation on resident COMMAND.COM. (DOS 1.1 only)

 SILICON VALLEY COMPUTER SOCIETY Disk No. 12

BALANCE BAS Calculate remaining balance of loan.
 BESTLINE BAS Calculate best fit to points - technique 1.
 BOND BAS Calculate accrued bond interest.
 BUDGET BAS Recursive personal budget model.
 COMPOUND BAS Calculate compound interest.
 CRITICAL BAS Critical path method for activities (not CP/M !).
 FUTURE BAS Calculate future value of an investment.
 INCOME BAS Calculate income averages for taxes.
 LEASE BAS Calculate lease versus buying values.
 MEAN BAS Calculate mean, variance and stnd dev.
 NET-REST BAS Calculate net present value of investment.
 NUMERIC BAS Convert number to new base.
 PERT BAS Program evaluation and review technique.
 PYTAX BAS Calculate the value of an interest tax deduct.
 REGRESS BAS Calculate best fit to points - technique 2.
 TREASURY BAS Calculate value of treasury bill.

 SILICON VALLEY COMPUTER SOCIETY Disk No. 13

IOSTUFF DOC Describes files below.
 DISKREAD EXE Displays disk contents by sector.
 DISKREAD OBJ -object for DISKREAD.EXE
 DISKREAD PAS -source for DISKREAD.OBJ
 INTRPT OBJ Object to be linked to your PASCAL program object.
 INT13 ASM -source for INTRPT.OBJ
 INTRPT ASM -source for INTRPT.OBJ
 IOSTUFF OBJ Object to be linked to your PASCAL program object.
 IOSTUFF PAS -source for IOSTUFF object
 IOSTUFF INC Source to be INCLUDED with your PASCAL program source.
 PRIME PAS Source for DEMO.
 SAMPLE PAS Source for DEMO.

 SILICON VALLEY COMPUTER SOCIETY Disk No. 14

This disk is the Mountain View Press Public Domain FORTH
 COMMAND COM Boots FORTH on initial startup
 MVPFORTH ASM Assembly language source for MVPFORTH
 MVPFORTH EXE Executable FORTH - type MVPFORTH to start from DOS

 SILICON VALLEY COMPUTER SOCIETY Disk No. 15

FORTH Screens for FORTH disk (SVCS# 14)
 Note that this disk is not a DOS disk and has no files or directory

 SILICON VALLEY COMPUTER SOCIETY Disk No. 16

BATMAN BAS :Sample menu/batch manager program; requires SHELL.BAT
 BATMAN DOC Documentation file
 BSR BAS :Simple program to drive ABM/BSR controller
 BSR DAT Data file
 BUZOFF COM Turn off paper out buzzer on Epson. Can execute from Wordstar
 COMPRS COM Enable compressed print on Epson. Can execute from Wordstar
 CVTHEX EXE Binary/hex conversion for files larger than 32K
 DCPATCH DOC Patch for DISKCOPY.COM 2.0
 DIAL COM Dials Hayes Smartmodem
 DIR BAS+ :Disk cataloging program; very colorful
 DIR DAT Sample data file
 DIR DOC Documentation file
 FK203 ASM Function key reassignment program for DOS 2.0
 FK203 DOC Documentation file
 GRAFTRAX ASM :Screen dump using PrtSc key for Epson/Nec/C.Itch
 GRAFTRAX BAS Sample BASIC program that calls GRAFTRAX.COM as subroutine
 GRAFTRAX COM Executable program file
 GRAFTRAX DOC Documentation file
 HANG COM Hangs up Hayes Smartmodem
 HOST BAS :Comm program to allow remote access
 HOST DOC Documentation file
 PEPATCH DOC Patch to PERSONAL EDITOR
 POSTER BAS Prints large character posters
 PRTFIX COM :Corrects "DEVICE TIMEOUT" errors with printer
 PRTFIX DOC Documentation file
 QD COM Quadram RAMDRIVE program; FOR QUADRAM BOARD ONLY
 QD DOC Documentation file
 SCROLL ASM :Scrolls specified area of display screen
 SCROLL BLD Program file to "BLOAD" from BASIC
 SCROLL DOC Documentation file
 SCROLL1 BAS Sample program
 SCROLL2 BAS Sample program
 SHELL BAT Bat file used with BATMAN.BAS
 SOUNDS BAS Generates different sounds; contains documentation

```

*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 17
*****
PC3SC   MRG   :Adds split screen capability to PC-Talk III
PC3SC   DOC   Documentation file
SDIR22  ASM   :Sorted directory program for DOS 2.0
SDIR22  COM   Executable program file
VDISK   ASM   :Sample ramdisk program from DOS 2.0 manual
VDISK   COM   Executable program file
VDISK2  ASM   :Same as VDISK.COM modified for double-sided disk
VDISK2  COM   Executable program file
VOLSER  COM   :Program to write 2.0 volume labels on diskettes
VOLSER  DOC   Documentation file
XOFF    MRG   :Adds XMODEM protocol to PC-Talk 2.0
XOFF    DOC   Documentation file
DEFKEY  COM   :Keyboard reassignment program; DOS 1.1 and 2.0
ORIGINAL KEY  Original keyboard configuration file
BSLASH  KEY   Backslash keyboard configuration file
DEMAIL  EXE   Mail/donation assistance
DEPCOPY BAT  Copies distribution disk
DEFKEY  DOC   Documentation

```

```

*****
SILICON VALLEY COMPUTER SOCIETY   NOT AVAILABLE               Disk No. 18
*****
TALK64  BAT   :Batch file to run 64K version of PC-Talk III
TALK128 BAT   Batch file to run 128K version of PC-Talk III
PC-TALK BAS   BASIC source file without remarks
PC-TALK EXE   Compiled program file
PCTKREM MRG   Remarks file to merge with PC-TALK.BAS
COPYTALK BAT  Batch file to copy disk
README  DOC   Documentation file for running PC-TALK III

```

```

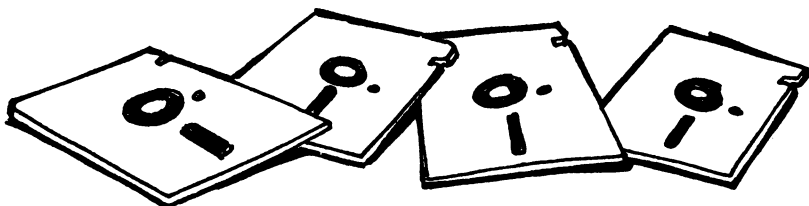
*****
SILICON VALLEY COMPUTER SOCIETY   NOT AVAILABLE               Disk No. 19
*****
PC-TALK DOC   :Documentation file for PC-Talk III; 80 pages
PRINTDOC BAT  Batch file for printing the documentation file.

```

```

*****
Disks No. 18 and 19 are available from:
THE HEADLANDS PRESS, INC.
P.O. Box 862
Tiburon, CA 94920
Send $35.00 --OR-- Two disks and a postpaid mailer.
*****

```



SILICON VALLEY COMPUTER SOCIETY Disk No. 20

LEM BAS A MOON LANDER PROGRAM
LANDER BAS ANOTHER MOON LANDER PROGRAM
STARS BAS CHALLENGING PERMUTATION PUZZLE TO SOLVE
STRIKE9 BAS DICE ROLL NUMBERS GAME
STORY BAS CREATES FOUR STORIES FROM USER SUPPLIED WORDS
LOAN BAS LOAN AMORIZATION PROGRAM
TRAP BAS NUMBER GUESSING GAME
CHESS BAS PLAY CHESS WITH THE COMPUTER(basis for CHESS.EXE on SVCS4)
ICICLES BAS A RACE TO THE TOP OF THE SCREEN
BARGRAPH BAS CREATES BARGRAPHS
CHIEF BAS MATH GAME
KINGDOM BAS CAN YOU SURVIVE YOUR TERM AS KING?
KENO BAS NEVADA STYLE BINGO
23MATCH BAS THE MATCH GAME
SECRETNO BAS YOU TRY TO GUESS THE NUMBER
DESERT BAS TRY TO CROSS THE DESERT WITHOUT GETTING KILLED
ZAP-EM BAS SPACE SHOOT-EM ON THE MONOCHROME
GOLF BAS PLAY GOLF, PICK YOUR CLUB AND STROKE
BULLSEYE BAS SIMULATED DART GAME
DECIDE BAS HELPS DECIDE BETWEEN ALTERNATIVES
CAPTURE BAS LOGIC GAME, TRY TO CAPTURE THE ENEMY SPACE SHIP
MISSLE BAS EARTH UNDER ATTACK FROM ANOTHER PLANET
BANKER BAS CHECKING ACCOUNT MAINTENANCE, EXPENSE CATEGORIES
ADDRESS BAS ADDRESSES AND PHONE NUMBERS

SILICON VALLEY COMPUTER SOCIETY Disk No. 21

SPEEDUP COM :SPEEDS UP DISK OPERATIONS; DO NOT USE WITH VISICALC.
SPEEDUP BAS SOURCE TO CREATE SPEEDUP.COM ON SYS DISK IN DRIVE A.
AUTOEXEC BAT SAMPLE AUTOEXEC TO LOAD SPEEDUP AND REQUEST DATE.
TWOSEID COM :ALLOWS 2 DOUBLE-SIDED DISK DRIVES ADDRESSED A,B,C,D.
TWOSEID BAS SOURCE FOR TWOSEID.COM; CONTAINS SETUP INSTRUCTIONS.
HEAPSORT BAS HEAP SORT
QSORT BAS QUICK INTERNAL SORT FOR ARRAY - STRING OR NUMERIC.
PRINT BAS PRINTS OR DISPLAYS ANY ASCII TEXT FILE.
BASICPRT BAS PRINTS BASIC PROGS WITH HILIGHTED REMS & PRINT CTRL.
MENU BAS :SIX PROGRAMS FROM DEALER DEMO A-DISK WHICH ARE NOT
IBMDIY BAS ON PC-DOS DISK. AN AUTOEXEC.BAT CONTAINING "BASICA
IBMMC BAS MENU" SHOULD BE USED WITH THESE PROGRAMS. THEY ALSO
IBMCS BAS CALL OTHER PROGRAMS ON DOS DISK AND ON SVCS022.
B BAS+ SWITCHES DISPLAY TO MONOCHROME.
C BAS+ SWITCHES DISPLAY TO COLOR.
LUNAR BAS GAME - APOLLO LUNAR LANDING.
PRDEMO BAS PRINTS ALL 12 MX80 PRINTER FONTS.
CHRSET BAS PRINTS ALL 244 PRINTABLE CHARS - 244 OUT OF 255.
TRANDUMP BAS HEX FILE DISPLAY PROGRAM.
CANNON BAS CANNON FIRING GAME - ELEV CONTROL AND SOUND EFFECTS.
NIM BAS GAME OF NIM.
START BAS+ :COLOR DISPLAY DEMO CONSISTING OF 17 PROGRAMS AND ONE
GTEST BAS+ DATA FILE. REQUIRES COLOR FACILITIES AND BASICA.
PSTYLES BAS+ ...
DISPLAY BAS+ ...
SATURN BAS+ PICTURE OF SATURN.
TESTSCRN BAS+ ...
PLOTTER BAS+ ...
GRAPH1 BAS+ YOU DRAW ON SCREEN WITH 8 CURSOR KEYS; OR LIGHT PEN.
WAITIN BAS+ ...
HAPPYB BAS+ ...
LOGOC BAS+ IBM LOGO.
SCREENS + DATA FILE FOR GRAPH1.BAS.
MX80 BAS+ SELECTS FONTS.
PEOPLE BAS+ GAME OF 20 QUESTIONS. MAY NEED EMPTY PEOPLEF FILE.
SNOW1 BAS+ RANDOM PATTERNS.
SNOW2 BAS+ ...
SNOW3 BAS+ ...
PATTERNS BAS+ MORE RANDOM PATTERNS.
DEFEND BAS+ ANIMATED WAR GAME - USES JOY STICK CONTROLLERS.

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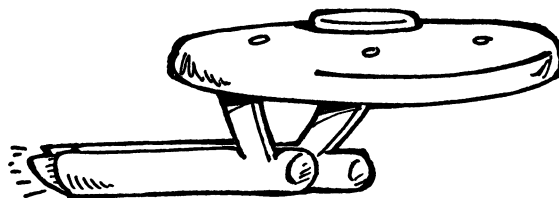
*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 22
*****
FENCE    BAS  GAME - HIT SHIFTY PREY WITH BALL USING \ / PADDLES.
DEMO3    BAS+ :FROM DEALER DEMO B-DISK. USE WITH MENU ON SVCS021.
LOGO40   BAS+ IBM LOGO ON 40 CHAR SCREEN.
GRAPHICS BAS+ ...
MOUNTX   PIC+ PICTURES USED BY DEMO3.
WORM     PIC+ ...
COMPLEX1 PIC+ ...
WORM2    PIC+ ...
QUILT    PIC+ ...
EGGS     PIC+ ...
FLOWERS  BAS+ ...
BULLSEYE BAS+ :TWO PROGRAMS USING CIRCLE STATEMENTS.
MEDBULL  BAS+ ...
PAINT    BAS+ PROGRAM WITH CIRCLE AND PAINT STATEMENTS.
ARKTRAV  BAS  MUSIC - A SHORT MELODY.
SIREN    BAS  WAILING SIREN THAT DOESN'T STOP UNTIL "CTRL BREAK".
LIFE     BAS  INPUT PATTERN IS CHAR STRING(S) - LAST ONE IS "DONE".

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 23
*****
STARTREK BAS  :STARSHIP ENTERPRISE - SPACE WAR WITH SOUND EFFECTS.
STARTREK HOW  :SCREENS OF INSTRUCTIONS - INVOKED BY BASIC PROGRAM.
STARTREK DUM  :DATA FILE USED BY PROGRAM.
PDRAW       DOC :COMPREHENSIVE DOCUMENTATION OF PDRAW PACKAGE.
PDRAW       BAS+ MAIN-LINE PROGRAM.
COLOR       BAS+ COLOR SUB-PROGRAM.
MONO        BAS+ MONOCHROME SUB-PRORAM.
COLOR       BAT+ BATS USED BY PDRAW...
RUNCOLOR    BAT+ ...
SETCOLOR    BAT+ ...
MONO        BAT+ ...
DEMO        PIC+ PICTURES USED BY PDRAW...
HELP1       PIC+ ...
HELP2       PIC+ ...
USASTATE    PIC+ ...
USATEMP     PIC+ ...
USA         PIC+ ...
IBMSONG     BAS  IBM RALLY SONG - LYRICS & BOUNCING BALL - 80 SCREEN.

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SILICON VALLEY COMPUTER SOCIETY Disk No. 24

BASMENU BAS AUTOMATIC MENU FOR BASIC PROGRAMS.
METEOR BAS FAST-MOVING GAME USING CURSOR MOVEMENT KEYS.
YAHTZEE BAS YAHTZEE GAME ROLLS THE DICE & KEEPS SCORE.
COREFIX BAS BASIC PROGRAM TO INSPECT & PATCH STORAGE.
BIRDS BAS SOUND EFFECTS.
BLKLETER BAS GENERATE BLOCK LETTERS ON THE PRINTER.
SPSHIPS BAS SOUND EFFECTS.
TICKTOCK BAS SOUND EFFECTS.
FINANCE BAS LARGE PACKAGE OF FINANCIAL PROGRAMS.
SHELLSORT BAS SHELL-METZGER SORT WRITTEN IN BASIC.
SORT BAS ANOTHER SORT WRITTEN IN BASIC.
BARGRAPH BAS :PROGRAM TO PRODUCE BAR GRAPHS ON THE MONO DISPLAY,
BACKLOG BAR SAMPLE BARGRAPH INPUT.
FCST BAR ...
PLANACT BAR ...
QTR26 BAR ...
S BAR ...
SS BAR ...
SSS BAR ...
SSSSS BAR ...
SSSSS BAR ...
YR17 BAR ...
YR20 BAR ...
PDSOFTWR DOC :PACKAGE OF PUBLIC DOMAIN SOFTWARE.
ASYN-PGM BAS ASYNCHRONOUS COMMUNICATION PROGRAM CAN DOWNLOAD.
BKSPACE BAS PATCH FOR DOS-DISK COMM.BAS TO HANDLE BACKSPACES.
DOWNLOAD BAS PATCH FOR DOS-DISK COMM.BAS TO DOWNLOAD FILES.
PRINTER BAS PATCH FOR DOS-DISK COMM.BAS TO TOGGLE PRINTER.
BRKEVEN VC VISICALC PROGRAM - BREAK-EVEN POINTS.
CONFIG20 VC A PC CONFIGURATOR IN VISICALC.
COSINES VC VISICALC PROGRAM - CALCULATE TABLE OF COSINES.
FEDTAX VC VISICALC PROGRAM - FEDERAL INCOME TAX.
GRAPHS VC VISICALC PROGRAM - PLOTTING POINTS.
HOMEBDGT VC VISICALC PROGRAM - HOME BUDGET PROGRAM.
PCONFIG3 VC ANOTHER PC CONFIGURATOR IN VISICALC.
PRTSETUP VC VISICALC PRINTER SETUP HINTS.

SILICON VALLEY COMPUTER SOCIETY Disk No. 25

PCMAN BAS+ COLOR GAME USING JOYSTICKS (UNTESTED).
PATHMAN BAS+ COLOR GAME USING KEYPAD - NO JOYSTICKS NEEDED.
DRAW EXE+ :BLOCK-READ A FILE DIRECTLY TO COLOR/GRAPHICS BUFFER.
DRAW ASM+ ASSEMBLER SOURCE FOR DRAW.
SCREEN EXE+ :SET COLOR/MONO/40/80/LOW/MED/HIGH RES.
SCREEN ASM+ ASSEMBLER SOURCE FOR SCREEN.
MONO EXE+ SET DISPLAY TO MONOCHROME.
COLOR EXE+ SET DISPLAY TO COLOR.
COLORDM BAT+ :RUN COLOR DEMO - THIS IS AN IMPRESSIVE DEMO.
START BAS+ ...
NEXTSHOW BAS+ ...
FAMILYDA Y + ...
BLASTOFF BAS+ ROCKET BLASTS OFF.
ESSXFADE BAS+ ...
FLYBY BAS+ OBJECTS IN SPACE.
LANDSEQ BAS+ LANDING.
WELCOME BAS+ ...
ELEPHANT BAS+ DANCING ELEPHANT.
BUTTRFLY BAS+ BUTTERFLIES FLYING.
OTHEDEMO BAS+ OTHELLO DEMONSTRATION.
BLIMP BAS+ BLIMP FLYING.
FINISH BAS+ END OF DEMO.
ADVLAND PIC+ ...
ELEPH EXE+ ...
ELEPH DAT+ ...
MCODE %%%+ ...
MONSW BAS+ ANOTHER COLOR/MONO PROGRAM. GOOD AS A SUBROUTINE.
PRTGRAF BAS+ DRAW A POLYGON, OPTIONALLY PRINT WITH GRAPTRAX.

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 26
*****
BREAKOUT BAS    GAME. Uses Cursor Keys to move paddle.
CHESS1  BAS    GAME. Multi-level skills. Slow.
CRAPS   BAS    GAME. Casino type, single player.
PC-TALK BAS    :Communications program. Need Async Adapter, Modem.
PC-TALK DOC    Extensive documentation for PC-TALK.
LPTALK  BAS    Used with PC-TALK.OR SCREEN.
REMOVE  BAS    Used with Communications. (PC-TALK)
MASTMIND BAS   GAME. Guess numbers instead of colored pegs.
SUPRTREK BAS   GAME. Another version for the "Trekkies."
STARTREK BAS   :GAME. Original on SVCS 23. Minor updates.
STARTREK HOW   Documentation used by STARTREK.BAS.
STARTREK DUM   Data          used by STARTREK.BAS.

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 27
*****
MENU      BAS    Menu to execute programs on this diskette.
PCMAN     BAS    GAME. Pac-Man look alike for 80 col. display
SURVIVAL  BAS    GAME. Can you survive a trip to the moon?
MOON      BAS    GAME. Enhanced version of SURVIVAL.
STARTREK  BAS    GAME. Another STARTREK version with minor changes
STARTRK2  BAS    . documentation for thr STARTREK game.
STARTREK  DUM    . overlay module for STARTREK.
JBREAK    BAS    GAME. Bounce the ball off of the wall.(Breakout)
BREAKOUT  BAS    GAME. A more sophisticated version of Breakout.
METEOR    BAS    GAME. Enhanced version of game on SVCS24
FENCE     BAS    GAME. Enhanced version of game on SVCS22
PCINIT    BAS    Initialize a hi score file for PCMAN.

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 28
*****
MENU      BAS    Menu to select programs for execution.
READING   BAS    GAME. Improve your reading speed.
MASTER    BAS    GAME. Mastermind. Guess the code.
MATH      BAS    GAME. Drill of simple math problems.
FRANK     BAS    GAME. HANGMAN by another name.
WORDS     BAS    . Data for FRANK
NIM       BAS    GAME. Ancient game of skill and strategy.
BACKGAM   BAS    GAME. Backgammon.
BLACK     BAS    GAME. Blackjack. For 1 or 2 players.
TRUCKER   BAS    GAME. Make your fortune in the trucking business.
IQBUILD   BAS    GAME. Sub-menu to run the IQ-Builder Series.
NUMBERS   BAS    . DATA 1 for numbers section of IQ-Builder Series.
NUM2      BAS    ..DATA 2 for      "
NUM3      BAS    ..DATA 3 for      "
ANALOG    BAS    . DATA 1 for analogy section of IQ-Builder Series.
ANALOG2   BAS    ..DATA 2 for      "
ANALOG3   BAS    ..DATA 3 for      "
ANALOG4   BAS    ..DATA 4 for      "
ANALOG5   BAS    ..DATA 5 for      "
ANALOG6   BAS    ..DATA 6 for      "
SYNONYM    BAS    . DATA 1 for synonym section of IQ-Builder Series.
SYNONYM2   BAS    ..DATA 2 for      "
ANTONYM    BAS    . DATA 1 for antonym section of IQ-Builder Series.
ANTONYM2   BAS    ..DATA 2 for      "

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 29
*****
MENU      BAS  MENU PROGRAM FOR DISK SVCS029
ARCHIE    BAS  ARCHIE LA CUCHARACHA - GAME, BASIC TUTORIAL & FUN PROGRAM
ARCHIE    DOC  DOCUMENTATION FOR ARCHIE
PCS       DOC  PROGRAM CONTROL SYSTEM DESCRIPTION
CONTROL   BAS  RUNS THE PRIME PROGRAM ON A BASIC DISKETTE.
CONTROL   BAT  RETURNS CONTROL TO DRIVE "A"
AUTOEXEC  BAT  REQUESTS DATE & TIME AND GIVES CONTROL TO SYSTEM.BAT
SYSTEM    BAT  LOADS BASICA, RUNS TRANSFER.BAS, RUNS B:CONTROL.BAT
RUN       BAT  RUNS THE PROGRAM PASSED AS A PARAMETER
TRANSFER  BAS  DISPLAYS DISK SWAP MSG, WAITS FOR KEYSTROKE
MENU      PCS  SAMPLE MENU FILE FOR BASIC PROGRAMS
COVER     PCS  MERGEABLE COVER PAGE AND EXIT HIERARCHY
EXIT      PCS  MERGEABLE EXIT HIERARCHY
CONTROLB  PCS  COPY TO CONTROL.BAT ON BASIC PROGRAM DISKETTES
CONTROLD  PCS  COPY TO CONTROL.BAT ON DATA DISKETTES
CONTROLM  PCS  COPY TO CONTROL.BAT ON MACHINE LANGUAGE PROGRAM DISKETTES
RV-EDIT   BAS  FULL SCREEN EDITOR
RV-EDIT   DOC  FULL SCREEN EDITOR DOCUMENTATION

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 30
*****
CHSONG    BAS  MUSIC. Christmas songs ('Tis the Season!).
WORM1     BAS  GAME. Watch him tunnel through the ground.
SCOPE     BAS+ GAME. Display symmetric random patterns.
DRAW      BAS+ GAME. Program to draw pictures on color screen.
HANGMAN   BAS+ GAME. Color version of hangman.
BLACKJCK  BAS  GAME. Upgraded to use color monitor if on.
OTHELLO   BAS  GAME. Upgraded to use color monitor if on.
YAHTZEE   BAS  GAME. Upgraded to use color monitor if on.
B-SIMPLE  BAS  UTILITY. Aid to create & structure BASIC programs.
CROSSREF  EXE  UTILITY. Cross-reference program for BASIC programs.
CROSSREF  SCR  :Documentation for CROSSREF (SCRIPT source)
MAIL      BAS  UTILITY. Mailing list program.
EDIT      BAT  UTILITY. Invoke RV-EDIT from DOS (see SVCS029)
BASMENU   BAS  AUTOMATIC MENU FOR BASIC PROGRAMS (see SVCS024)
CONTROL   BAS  Lets this diskette run under PCS

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 31
*****
PCMAN     EXE  GAME. Text mode, any monitor, keeps HI 10 scores.
JOYSTICK  EXE  :Lets you use a joystick for PCMAN
JOYSTICK  DOC  :Explains joystick setup for PCMAN
PACGIRL   EXE  GAME. Text mode, any monitor, variation on PAC* theme.
PCHEERS   BAS  SONG. Bonnie's Version of 12 Days of Christmas

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 32
*****
PC-MAP    BAS  A utility to help you use PC-FILE (SVCS005)
XDIR33    EXE  Latest version of XDIR (Program to catalog your disks
XDIR33    DOC  :Documentation for above.
BMENU     BAS  Program to create menus for basic pgms. (Needs BASICA
BMENU     DOC  :Documentation for above.
BMENUD    BAS  :Same as BMENU except uses Disk Basic.
CHECKDIR  EXE  Check a disk against catalog to see if duplicates.
CHECKDIR  DOC  :Documentation for above.
LDIR      BAS  List Directory / FAT.
LDIRC     BAS  Input for BASIC COMPILER version of above.

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 33
*****
DRAW2   BAS+ Update to P-DRAW (graphics).
MOUNTAIN BAS   Game.
STARWARS BAS   PC adaptation of popular space game.
TAXRTRN VC     VisiCalc template to use for your income taxes.
BOWLING BAT   Batch file to start League Secretary Bowling Programs
BOWLING DOC   :Documentation for League Secretary Bowling Programs.
BOWLFILE FD   .....
BOWLPR1 EWF   :EASYWRITER format documentation for Bowling pgms.....
BOWLPR2 EWF   :More documentation. Link with above.
CHANGE BAS   .....
CREATE BAS   .....
DETAIL BAS   ..... PROGRAMS.....
FINAL BAS   .....
MENU BAS     .....FOR.....(run me first).....
PRINT BAS   .....
RECAP BAS    .....LEAGUE.....
RECORDD BAS  .....
RECORDP BAS  .....SECRETARY.....
SCHEDULE BAS .....
SCORES BAS   .....BOWLING.....
SORTFILE BAS .....

```

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 34
*****
RUBIK    BAS   GAME: Rubik's cube simulation
TOWERS   BAS   GAME: Towers of Hanoi
WUMPUS   BAS   GAME: Hunt the Wumpus in it's cave
JAMMER   BAS   GAME: "Head On" Variation
RACJAM   SCO   DATA for JAMMER game, scoring categories
GOBBLE   BAS   GAME: PAC MAN variation
TICTACTO BAS   GAME: Tic-Tac-Toe
SONGS    BAS   SONG: Choose from several on "menu".
YESTER   BAS   SONG: Yesterday
EVRONWRD BAS   SONG: Ever Onward
RANGERD  BAS   SONG: The William Tell Overture (Lone Ranger Theme)
PUFF     BAS   SONG: Puff the Magic Dragon
LITUPLIF BAS   SONG: You Light Up My Life
MOON     BAS   GAME: Survival on the MOON.
NEWTREK  BAS   GAME: Another version of StarTrek.
NEWTREK  DOC   Documentation for above.
OPERATOR BAS   GAME: Simulates S/370 VM Operator Console.
PACKMAN  EXE+  GAME: Excellent graphics version of PacMan.
PACKMAN  DOC   Documentation for above.

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 35
*****
HAM Radio Utilities:
GRCIRCLE BAS   : Great circle calculation
ORBIT   BAS   : Orbit calculation
IMOD2   BAS   : Intermodulation distortion calculation
POLAR   BAS   : Polar co-ordinate transformation
QSL     BAS   : QSL sender
FINANCE BAS   20 Miscellaneous financial programs.
FINANCE1 BAS   5 more financial programs.
IRA     BAS   IRA account calculations.
GROWTH  BAS   Growth rate and projections.
GROWTH1 BAS   Calculates compound growth.
DATABASE BAS   Database manager.
REPORTS BAS   Budget management report.
PRLIST  BAS   Miscellaneous printer routines.
KALCOL  BAS   Kaleidescope - mono/color.(Subroutine form)

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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 36
*****
INFO      BAT      Informational file for Book Indexing programs.
                        . Describes how to use program(s).
START     BAT      :Start-up program : creates empty data file.
ENTER     BAT      :Begin index entries.
COMBINE    BAT      :Sort/merge new entries with any previous entries.
INDEX      BAT      :Format an index from the data.
INPUT      EXE      .....
SORT       EXE      .....
MERGE      EXE      .....
BUILD      EXE      .....
INPUT      PAS>     :PASCAL source code for the indicated program.
SORT       PAS      :
MERGE      PAS      :
BUILD      PAS      :

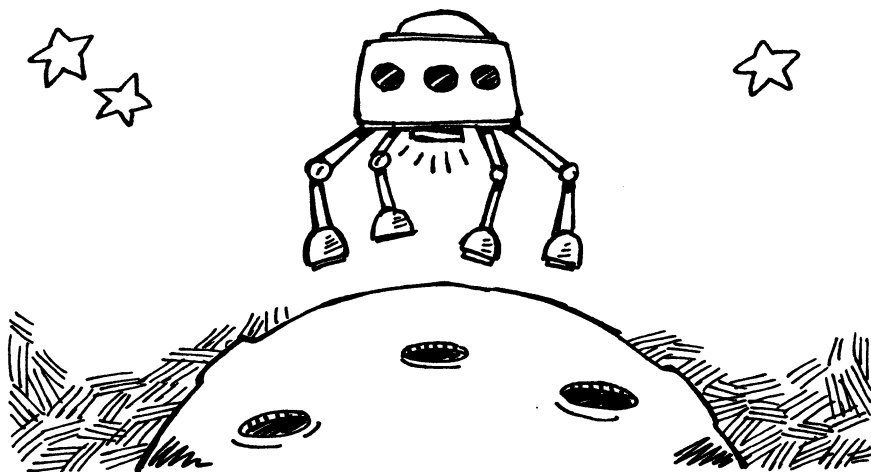
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*****
SILICON VALLEY COMPUTER SOCIETY                               Disk No. 37
*****
NOISE      BAS      DEMO. Produces different cycle sounds.
LANDER     BAS      GAME. Fuel consumption.
CRASHER    BAS      GAME. Planet landing.
TREK       BAS+     GAME. Yet another StarTrek game (color).
FOILS      BAS      UTILITY. Produces foils from script-type file.
DATETIME   BAS      UTILITY. Easier way to set DOS date & time.
SETCOLOR   COM+     UTILITY. Sets background and border color to blue.
SETCOLOR   ASM+     :Assembler source code for SETCOLOR.
STARTUP    BAS+     Initial program to run for ZOOSORT
ZOOSORT     BAS+     Graphical demonstration of bubble sort.
ZOOTIME     BAS+     . A program is generated by you to sort animals
FLAG        BAS+     . by weight. Also some questions about what
MONTOCOL    BAS+     . sorting is good for are asked.
COLTOMON    BAS+     . ONE OF THE BEST INSTRUCTIONAL/GRAPHIC
AUTHOR      BAS+     . PROGRAMS ON THE CLUB DISKETTES.
AUTHOR2     BAS+     .
FLIP        MEM+     .
FLIPD       MEM+     .
GRAPHICS    COM+     .

```

Also a total of 27 Binary files used in ZOOSORT program.



 SILICON VALLEY COMPUTER SOCIETY Disk No. 38

CONTENTS TXT Description of files on this disk
 TABSET1 PAS Sets tabs on Epson MX-100 printer
 TABSET2 PAS Similar to TABSET1 but treats printer as binary file
 TIMM PAS Illustrates concept of Pascal unit (main program)
 TIMI PAS Illustrates concept of Pascal unit (interface)
 TIMU PAS Illustrates concept of Pascal unit (unit)
 SCREEN PAS Short program to access specific memory addresses
 PRINTER PAS Utility to print multiple files
 PARSE P Part of PRINTER
 INDEX P Part of PRINTER
 DSNAME P Part of PRINTER
 XREF PAS Cross reference utility
 COPYFILE PAS Program to show how files are defined, read and copied
 DUMPFIL PAS Produces hexadecimal and ASCII dump of a disk file
 UNSQ PAS Unsqueeze files compressed by techniques such as Huffman encoding
 PRETTY PAS Utility for listing Pascal programs in pretty format
 PARTA PAS Part of PRETTY
 PARTB PAS Part of PRETTY
 PARTC PAS Part of PRETTY
 GETDIR PAS Program to read disk directory
 GETDIR OBJ Object module of GETDIR
 GETSEC ASM Assembly language utility used by GETDIR
 GETSEC OBJ Object module of GETSEC
 GETDIR EXE Executable program to read disk directory
 VIDEO ASM Pascal callable routine to perform BIOS video interrupts
 PASCLG BAT Batch file to compile, link and go
 PASCL BAT Batch file to compile and link
 PASC BAT Batch file to compile only
 FLUSH BAT Batch file to clean up Pascal compilation and test residue

 SILICON VALLEY COMPUTER SOCIETY Disk No. 39

ATTACK BAS+ GAME. Destroy the Apple computer manufacturing plant
 BLACKBOX BAS GAME. A game of strategy.
 CHR BAS Displays complete character set on screen
 EONSOLVE BAS Solves n linear equations in n unknowns, n <= 10
 GALLERY BAS GAME. Arcade game.
 INVEN BAS 48K inventory program
 MATH BAS GAME. Addition, subtraction, mult. & div. problems
 PERMUTE BAS Displays all possible permutations of a set of chars
 ROMCHAR BAS Displays dot matrix characters from ROM patterns
 SCRAMBLE BAS GAME. Guess scrambled words in shortest time
 SERPENT BAS GAME. Guide a serpent through obstacles
 SURROUND BAS GAME. Guide expanding character thru a maze
 ZAP'EM BAS+ GAME. Arcade game
 CIAGAME BAS GAME. An adventure to recover the stolen ruby
 SPINOUT BAS+ GAME. High res version of breakout
 SLOTMACH BAS GAME.
 WILLTELL BAS MUSIC. An amazing musical selection
 WILLTELL DAT -- Data for WILLTELL.BAS
 MENU BAS this is good ol' BASMENU, a handy BASIC menu program

 SILICON VALLEY COMPUTER SOCIETY Double Sided Disk No. 40

KERMIT DOC KERMIT Users Guide
 KERMIT PRO KERMIT Protocol Manual

 SILICON VALLEY COMPUTER SOCIETY Double Sided Disk No. 41

KERMIT ASM Source for IBM-PC version of KERMIT
 KERMIT EXE Executable IBM-PC KERMIT

SILICON VALLEY COMPUTER SOCIETY Disk No. 42

DRAW DOC Documentation file for MDRAW and HDRAW
DRAW CMT Comment lines for HDRAW and MDRAW programs
MODROW TXT Additional informations on graphics programs
MDRAW BAS Medium resolution draw program
HDRAW BAS High resolution draw program
HELP1 PIK Help picture for draw programs
HELP1 PIC Help picture for draw programs
COLOR EXE Sets display to color from DOS
MONO EXE Sets display to monochrome from DOS
SCROLLK BAS Generates SCROLLK.COM [Softalk, May 1983]
SCROLLK COM Enables ScrollLock key to control output to screen
WS-DOS BAS Converts Wordstar files to DOS files and vice versa
SPOOLBAS BAS Allows spooling to continue from DOS to BASIC
SPOOLER1 COM Printer spooler for monochrome display card
SPOOLER2 COM Printer spooler for color display card
SPOOLER DOC Documentation file for spooler programs
DISKRTN EXE Examine and modify disk directory
DISKRTN DOC Documentation for DISKRTN
FILTER BAS Removes control characters from downloaded files
FILTER DOC Documentation for FILTER program
DM BAS Sets up Dot Matrix printer under Wordstar
DMLQ DOC Documentation for DM and LQ
LQ BAS Sets up Letter Quality printer for use under Wordstar
LIST EXE Lists files to screen with anykey' pause control

SILICON VALLEY COMPUTER SOCIETY Disk No. 43

LIFE EXE Rabbit paced version of John Conway's famous Game of Life.
LIFE ASM Source code for LIFE.EXE. TYPE for instructions.
LUNAR BAS+ Pick a flat spot and try to land, not too hard!
BALL BAS Shoot pea into cup. Simple text mode game.
ROD BAS+ Draws every varying mosaic pattern.
DESIGN BAS+ Nice graphics demo program.
DSKTST BAS Modification of Disk Drive Test, SVCS Vol 2 No 2 May, 1983
DRIVETST BAS Modification of Disk Drive Test, SVCS Vol 2 No 2 May, 1983
SETPRTR EXE Setup MX-80 printer from Menu Screen.
SETPRTR C Caprock Systems Small-c:pc source for SETPRTR.EXE
KEYLOC EXE Converts momentary keys to toggle keys. (Aids handicapped)
KEYLOC ASM Source code for KEYLOC.EXE
KEYLOC DOC Documentation for KEYLOC.EXE
MEMORY COM Sets memory size independent of system board switches.
MEMORY DOC Documentation for MEMORY.COM
MAIL1 BAS Mail list program. Keeps sort indexes on four fields.
MAIL1 DOC Documentation for MAIL1.BAS
ADD-LF BAS Adds linefeeds to files that contain only carriage returns
CONV BAS Converts COM/EXE to transmittable BASIC which will rewrite file.
DISPLAY TXT IBM Bulletin UU-12, Faster screen writes.
DISPLAY BAS Program portion of IBM Bulletin UU-12
PEEKPOKE TXT Information on memory locations and their contents.
QD EXE QuadRAM 8 sector drive 0 to 320KB
QM EXE QuadRAM 8 sector multidrive 0 to 320KB
QDXT EXE QuadRAM 9 sector drive 0 to 360KB
QMXT EXE QuadRAM 9 sector multidrive 0 to 360KB
QSWAP COM QuadRAM printer swap, LPT1:/LPT2:
QSPool COM QuadRAM print spooler.
QUADRAM DOC Documentation for QuadRAM programs.
QUIKUP COM Fast pwrup with large memory, including >544KB.
QUIKUPQD COM QUIKUP compatible with Quadram QM, QDXT, QMXT.
QUIKUP DOC Documentation for QUIKUP programs.

Index

HOW TO READ THE INDEX

ARCHIE	DOC	29	2048
ARKTRAV	BAS	22	128
ART	BAS	1	1408
ARTILL	BAS	11	7680

file name

file extension

diskette number

memory required

--- ! - 9 ---

!	BAT	9	16
23MATCH	BAS	20	1021
2COLOR	COM	9	22
2COLOR	SYS	9	256
2MONO	COM	9	22
2MONO	SYS	9	256

--- A ---

ACATALOG	BAS	9	5120
ACRS	BAS	6	3456
ADD-LF	BAS	43	1792
ADDCR	BAS	2	512
ADDRESS	BAS	20	5010
ADVLAND	PIC	25	16512
ANALOG	BAS	28	4096
ANALOG2	BAS	28	1280
ANALOG3	BAS	28	3584
ANALOG4	BAS	28	1920
ANALOG5	BAS	28	1664
ANALOG6	BAS	28	2304
ANTONYM	BAS	28	3840
ANTONYM2	BAS	28	2560
ARCHIE	BAS	29	32384
ARCHIE	DOC	29	2048
ARKTRAV	BAS	22	128
ART	BAS	1	1408
ARTILL	BAS	11	7680
ASCICHR	BAS	9	2432
ASCII	BAS	9	640
ASYN-PGM	BAS	24	3694
ATTACK	BAS	39	6400
AUTHOR	BAS	37	1664
AUTHOR2	BAS	37	1280
AUTOEXEC	BAT	5	22
AUTOEXEC	BAT	9	16
AUTOEXEC	BAT	21	16
AUTOEXEC	BAT	29	21
AUTOINST	BAS	9	2048
AUTOPEEK	BAS	9	896
AUTOST	BAS	9	6528

--- B ---

B	BAS	21	128
B-SIMPLE	BAS	30	17664
B1	BAS	37	128
BACKGAM	BAS	28	4736
BACKLOG	BAR	24	512
BACKUP	BAS	4	5888
BALANCE	BAS	12	512
BALL	BAS	1	1536
BALL	BAS	43	2176
BANKER	BAS	20	21248
BARGRAPH	BAS	20	22016

BARGRAPH	BAS	24	22016
BASICPRT	BAS	21	5248
BASMENU	BAS	24	768
BASMENU	BAS	30	896
BATMAN	BAS	16	2032
BATMAN	DOC	16	2506
BESTLINE	BAS	12	896
BIGTYPE	BAS	11	1536
BIHEX	BAS	7	7808
BIRDS	BAS	24	2048
BKSPACE	BAS	24	779
BLACK	BAS	28	16000
BLACKBOX	BAS	39	4992
BLACKJCK	BAS	1	8320
BLACKJCK	BAS	30	9472
BLASTOFF	BAS	25	3200
BLIMP	BAS	25	1408
BLKLETER	BAS	24	512
BMENU	BAS	32	3968
BMENU	DOC	32	4034
BMENUD	BAS	32	3200
BOND	BAS	12	2816
BOWLFILE	FD	33	1152
BOWLING	BAT	33	36
BOWLING	DOC	33	640
BOWLPR1	EWf	33	12160
BOWLPR2	EWf	33	12928
BREAKOUT	BAS	26	2176
BREAKOUT	BAS	27	2176
BRKEVEN	VC	24	15360
BSLASH	KEY	17	86
BSR	BAS	16	783
BSR	DAT	16	409
BUDGET	BAS	12	7808
BUILD	EXE	36	29696
BUILD	PAS	36	4170
BULLSEYE	BAS	20	1792
BULLSEYE	BAS	22	256
BUTTRFLY	BAS	25	3712
BUZOFF	COM	16	128

--- C ---

C	BAS	21	256
CANNON	BAS	21	2048
CAPTURE	BAS	20	3787
CATCH88	BAS	4	6016
CD	COM	11	640
CHANGE	BAS	33	9088
CHARS	BAS	6	2386
CHARS	EXE	6	24960
CHASM	BAS	10	35456
CHASM	BAT	10	18
CHASM	DAT	10	9457
CHASM	DOC	10	46903
CHASM	OVL	10	128
CHECKDIR	DOC	32	1887
CHECKDIR	EXE	32	36224
CHECKOUT	BAS	6	6272

CHECKOUT	BAS	9	6656
CHESS	BAS	20	16000
CHESS	EXE	4	46464
CHESS1	BAS	26	21473
CHIEF	BAS	20	1254
CHR	BAS	39	896
CHRSET	BAS	21	256
CHSONG	BAS	30	3584
CIAGAME	BAS	39	16384
CIRCLE	BAS	1	1152
CIRCLES	BAS	1	1024
CLEAN	COM	2	512
CLS	ASM	10	749
CLS	COM	2	128
CNTRLBK	BAS	6	512
COLOR	BAS	23	128
COLOR	BAT	23	15
COLOR	EXE	25	640
COLOR	EXE	42	640
COLOR40	COM	6	22
COLOR80	COM	6	22
COLORBAR	BAS	1	1024
COLORDM	BAT	25	37
COLORG	COM	6	22
COLORSET	BAS	9	2176
COLOUR	DOC	11	9088
COLTOMON	BAS	37	128
COMBINE	BAT	36	128
COMMAND	COM	14	18944
COMPLEX1	PIC	22	16512
COMPOUND	BAS	12	768
COMPRS	COM	16	128
CONFIG20	VC	24	6912
CONTENTS	TXT	38	3968
CONTROL	BAS	29	128
CONTROL	BAS	30	128
CONTROL	PCS	29	5
CONTROLB	PCS	29	5
CONTROLD	PCS	29	11
CONTROLM	PCS	29	13
CONV	BAS	43	3584
COPYFILE	PAS	38	458
COPYOVER	BAT	1	198
COPYOVER	DOC	1	450
COPYTALK	BAT	18	1152
COREFIX	BAS	24	2048
COSINES	VC	24	3328
COVER	PCS	29	1152
CPCPRO	DOC	11	12800
CR	BAS	2	1408
CRAPS	BAS	26	3328
CRASHER	BAS	37	4480
CRCK4	COM	9	1536
CRCK4	CPM	9	1408
CREATE	BAS	4	3072
CREATE	BAS	33	4096
CRITICAL	BAS	12	2176
CRMAIL	EXE	8	34176
CROSSOPT	8	128	
CROSSREF	BAS	2	5248

CROSSREF	DOC	8	15488
CROSSREF	EXE	8	43392
CROSSREF	EXE	30	44288
CROSSREF	SCR	30	9728
CROSSWDS	DAT	8	902
CSPPOOL	COM	2	1024
CVTHEX	EXE	16	25472

D

DATA		30	0
DATABASE	BAS	35	12032
DATETIME	BAS	37	1792
DBMENU	BAS	4	1280
DCBA	HOW	6	1643
DCPATCH	DOC	16	472
DDATE	COM	11	512
DECIDE	BAS	20	4897
DEFCOPY	BAT	17	604
DEFEND	BAS	21	5504
DEFKEY	COM	17	4357
DEFKEY	DOC	17	23207
DEFMAIL	EXE	17	30208
DEMO	PIC	23	16512
DEMO3	BAS	22	8320
DESERT	BAS	20	5820
DESIGN	BAS	43	13568
DETAIL	BAS	33	2048
DIAL	COM	16	384
DIR		17	837
DIR	BAS	16	15104
DIR	DAT	16	384
DIR	DOC	16	915
DISKID	REV	9	128
DISKMOD	BAS	2	7552
DISKMODF	BAS	11	3712
DISKREAD	EXE	13	37632
DISKREAD	OBJ	13	7154
DISKREAD	PAS	13	7507
DISKRTN	DOC	42	503
DISKRTN	EXE	42	9728
DISPLAY	BAS	21	512
DISPLAY	BAS	43	1420
DISPLAY	TXT	43	3024
DM	BAS	42	1024
DMLQ	DOC	42	918
DOC	BAT	5	187
DONKEY	BAS	1	3072
DOTS	BAS	1	1408
DRAW	ASM	25	884
DRAW	BAS	30	10752
DRAW	CMT	42	2944
DRAW	DOC	42	17152
DRAW	EXE	25	640
DRAW2	BAS	33	13184
DRIVETST	BAS	43	1617
DSKTST	BAS	43	2586
DSNAME	P	38	681
DUMP	BAS	4	2304

DUMPFIL	PAS	38	1710
DWNLOAD	BAS	24	893

E

E1	BAS	37	896
E2	BAS	37	896
E3	BAS	37	896
EDIT	BAT	30	76
EGGS	PIC	22	16512
ELEPH	DAT	25	8960
ELEPH	EXE	25	18048
ELEPHANT	BAS	25	3584
ELIZA	BAS	4	6656
EMPTY		36	1
ENTER	BAT	36	128
EQNSOLVE	BAS	39	3584
ESSXFADE	BAS	25	1152
EVRONWRD	BAS	34	3328
EXIT	PCS	29	256
EXPLIST	DOC	7	34176
EXPLIST	EXE	7	48000
EXPLISTR	EXE	7	19584
EXPMAIL	EXE	7	34176
EXPOPT		7	128

F

FAMILYDA	Y	25	4864
FCST	BAR	24	384
FEDTAX	VC	24	12032
FENCE	BAS	22	4352
FENCE	BAS	27	4352
FILEFIX	EXE	5	15616
FILTER	BAS	42	1280
FILTER	DOC	42	528
FINAL	BAS	2	1024
FINAL	BAS	33	4608
FINAL-UP	BAS	2	1024
FINANCE	BAS	24	22016
FINANCE	BAS	35	22016
FINANCE1	BAS	35	6400
FIND	COM	9	896
FINISH	BAS	25	6144
FK	COM	11	2432
FK	DOC	11	8806
FK203	ASM	16	6177
FK203	EXE	16	1152
FLAG	BAS	37	384
FLIP	MEM	37	256
FLIPD	MEM	37	128
FLOWERS	PIC	22	16512
FLUSH	BAT	38	128
FLYBY	BAS	25	2688
FOILS	BAS	37	3584
FRANK	BAS	28	6144
FREE1	BIN	6	8264
FREE1	DOC	6	4951

FREE1	EXE	6	2944
FREE3	COM	6	1536
FREE3	DOC	6	2896
FUTURE	BAS	12	896

G

G1	BAS	37	768
G2	BAS	37	768
G3	BAS	37	768
G4	BAS	37	768
G5	BAS	37	768
GALLERY	BAS	39	2944
GDUMP	BAS	6	3200
GDUMP	EXE	6	23040
GETDIR	EXE	38	28928
GETDIR	OBJ	38	2337
GETDIR	PAS	38	2304
GETSEC	ASM	38	2560
GETSEC	OBJ	38	111
GOBBLE	BAS	34	2944
GOLF	BAS	20	6197
GRAF2	COM	2	1280
GRAFGE	BAS	11	8335
GRAFGE	DOC	11	1920
GRAPHAT	BAS	6	1408
GRAPHAT	EXE	6	22272
GRAFTRAX	ASM	16	32735
GRAFTRAX	BAS	16	2180
GRAFTRAX	COM	16	1120
GRAFTRAX	DOC	16	1903
GRAPH1	BAS	21	12160
GRAPHICS	BAS	22	12928
GRAPHICS	COM	37	789
GRAPHS	VC	24	15360
GRCIRCLE	BAS	35	1152
GROWTH	BAS	35	1792
GROWTH1	BAS	35	1536
GSDUMP	BAS	11	640
GTEST	BAS	21	512
GUIDE1	REF	6	1779
GUIDE2	REF	6	4175
GUMUP1	DOC	11	6089

H

H1	BAS	37	768
H2	BAS	37	768
HALS	DOC	11	1320
HANG	COM	16	384
HANGMAN	BAS	4	3968
HANGMAN	BAS	30	3840
HAPPYB	BAS	21	256
HATDANCE	BAS	1	1664
HDRAW	BAS	42	7168
HEAPSORT	BAS	21	1536
HELP1	PIC	23	16512
HELP1	PIC	42	16512

HELP1	PIK	42	16512
HELP2	PIC	23	16512
HELP2	PIC	42	16512
HELP2	PIK	42	16512
HEXCONV	BAS	2	7680
HGRI	EXE	2	2048
HISCORE	PC	27	384
HOMEBDGT	VC	24	4736
HOST	BAS	16	12160
HOST	DOC	16	379

KERMIT	DOC	40193785
KERMIT	EXE	41 14336
KERMIT	PRO	40101229
KEYLOC	ASM	43 7424
KEYLOC	DOC	43 1792
KEYLOC	EXE	43 1536
KEYSBAS	BAS	9 2944
KEYSMP	BAS	9 2560
KINGDOM	BAS	20 5644
KYBD	BAS	2 1664

I

IBMCS	BAS	21	13184
IBMDIY	BAS	21	20992
IBMMC	BAS	21	21760
IBMSONG	BAS	23	5120
ICICLE	BAS	20	384
IMOD2	BAS	35	2432
INCOME	BAS	12	8832
INDEX	BAT	36	128
INDEX	DOC	9	6144
INDEX	P	38	279
INFO	BAT	36	5760
INPUT	EXE	36	29696
INPUT	PAS	36	6912
INSERT	BAS	4	8448
INTRPT	ASM	13	1685
INTRPT	OBJ	13	234
INVEN	BAS	39	11008
IOSTUFF	DOC	13	5203
IOSTUFF	INC	13	5142
IOSTUFF	OBJ	13	7105
IOSTUFF	PAS	13	7340
IQBUILD	BAS	28	4608
IRA	BAS	35	1408

J

JAMMER	BAS	34	7808
JBREAK	BAS	27	2176
JOYSTICK	DOC	31	165
JOYSTICK	EXE	31	23424
JUMBLE	BAS	11	768

K

K1	BAS	37	768
K2	BAS	37	768
K3	BAS	37	768
K4	BAS	37	768
K5	BAS	37	768
KALCOL	BAS	35	896
KALEID	BAS	1	2560
KB FLAG	BAS	6	3200
KEÑO	BAS	20	5530
KERMIT	ASM	41132096	

L

LANDER	BAS	20	3456
LANDER	BAS	37	3200
LANDSEQ	BAS	25	3584
LDIR	BAS	32	4480
LDIRC	BAS	32	4382
LEASE	BAS	12	2176
LEM	BAS	20	6016
LF	COM	7	896
LF	COM	11	512
LIFE	ASM	43	9202
LIFE	BAS	22	1664
LIFE	EXE	43	1152
LIST	EXE	42	640
LISTER	BAS	2	10112
LITUPLIF	BAS	34	2048
LOAN	BAS	20	2304
LOGO40	BAS	22	1280
LOGOC	BAS	21	1536
LONGZONE	BAS	9	2944
LOOK	COM	9	1024
LOOKUP	BAS	4	5376
LPCTALK	BAS	26	896
LQ	BAS	42	1024
LUNAR	BAS	21	1792
LUNAR	BAS	43	2176

M

MAIL	BAS	30	15872
MAIL1	BAS	43	20480
MAIL1	DOC	43	2816
MASTER	BAS	28	5120
MASTMIND	BAS	26	3712
MATH	BAS	28	6400
MATH	BAS	39	2304
MAXIT	BAS	1	4608
MCODE	%%%	25	128
MDM7	DOC	9	12288
MDM7I	COM	9	7552
MDMIBM	ASM	9	4724
MDRAW	BAS	42	7424
MEAN	BAS	12	640
MEDBULL	BAS	22	256
MEMORY	COM	43	1466
MEMORY	DOC	43	3122

MEMPEEK	BAS	11	3840
MENU		21	0
MENU	BAS	1	4096
MENU	BAS	9	128
MENU	BAS	21	5760
MENU	BAS	27	4352
MENU	BAS	28	4096
MENU	BAS	29	1754
MENU	BAS	33	4992
MENU	BAS	39	896
MENU	PCS	29	2304
MERGE	EXE	36	30464
MERGE	PAS	36	4096
METEOR	BAS	4	3456
METEOR	BAS	24	3968
METEOR	BAS	27	3584
MINIPROG	BAS	9	1280
MISSLE	BAS	20	1942
MODEM7	COM	4	7552
MODEM7	DOC	4	12288
MODROW	TXT	42	2564
MODULO	BAS	9	512
MONITOR		2	640
MONITOR	BAS	8	7296
MONITOR	DOC	8	55168
MONO	BAS	23	128
MONO	BAT	23	14
MONO	COM	6	22
MONO	EXE	25	640
MONO	EXE	42	640
MONOSET	BAS	9	1664
MONSW	BAS	25	2304
MONTOCOL	BAS	37	256
MOON	BAS	27	18816
MOON	BAS	34	23428
MORTGAGE	BAS	01	5888
MOUNTAIN	BAS	33	5248
MOUNTX	PIC	22	16128
MSPOOL	COM	2	768
MUSIC	BAS	1	8448
MVPFORTH	ASM	14	57643
MVPFORTH	EXE	14	10496
MX80	BAS	21	1408

N

NETPREST	BAS	12	896
NEWKEY	BAS	2	256
NEWTREK	BAS	34	25088
NEWTREK	HOW	34	3625
NEXTSHOW	BAS	25	3456
NIM	BAS	21	8832
NIM	BAS	28	8832
NOISE	BAS	37	640
NUM-WORD	BAS	6	3200
NUM2	BAS	28	3584
NUM3	BAS	28	1024
NUMBERS	BAS	28	3712
NUMERIC	BAS	12	1280

NUMVERT	BAS	9	1152
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O

OPERATOR	BAS	34	12416
OPKEYS	BAS	9	512
ORBIT	BAS	35	9600
ORIGINAL	KEY	17	86
OTHEDEMO	BAS	25	6144
OTHELLO	BAS	1	6912
OTHELLO	BAS	30	8320

P

PACGIRLA	EXE	31	48896
PACKMAN	DOC	34	4736
PACKMAN	EXE	34	37120
PAINT	BAS	22	384
PALLETTE	BAS	11	640
PARSE	P	38	1531
PARTA	PAS	38	14803
PARTB	PAS	38	17091
PARTC	PAS	38	10520
PASC	BAT	38	256
PASCL	BAT	38	256
PASCLG	BAT	38	256
PATHMAN	BAS	25	9344
PATTERNS	BAS	1	4096
PATTERNS	BAS	21	3200
PAYMENT	BAS	9	3200
PC-EXPOR	EXE	5	26752
PC-FILE	DOC	5	70589
PC-FILE	EXE	5	38144
PC-MAP	BAS	32	10880
PC-MERGE	EXE	5	17536
PC-PRINT	EXE	5	38272
PC-SORT	EXE	5	25600
PC-TALK	BAS	18	34816
PC-TALK	BAS	26	35200
PC-TALK	DOC	191	19424
PC-TALK	DOC	26	41472
PC-TALK	EXE	18	81408
PC-UTIL	EXE	5	28032
PC3SC	DOC	17	399
PC3SC	MRG	17	1222
PCHEERS	BAS	31	11776
PCINIT	BAS	27	512
PCMAN	BAS	25	7552
PCMAN	BAS	27	10112
PCMAN	EXE	31	48384
PCMANHI	FIL	31	128
PCONFIG3	VC	24	10624
PCS	DOC	29	21465
PCTKREM	MRG	18	3584
PDRAW	BAS	23	7168
PDRAW	DOC	23	15170
PDSOFTWR	DOC	24	4224
PEEK	BAS	9	896

PEEKPOKE	TXT	43	3072
PEOPLE	BAS	21	2944
PEOPLES		21	0
PEPATCH	DOC	16	684
PERMUTE	BAS	39	512
PERT	BAS	12	3072
PIECHART	BAS	1	1792
PLANACT	BAR	24	512
PLOTTER	BAS	21	3584
POINT1		30	0
POLAR	BAS	35	896
PONGPONG	BAS	1	4992
POSTER	BAS	16	3173
PRDEMO	BAS	21	2048
PRETTY	PAS	38	384
PRIME	PAS	13	723
PRINT	BAS	7	5504
PRINT	BAS	21	2304
PRINT	BAS	33	3584
PRINTDOC	BAT	19	256
PRINTER	BAS	24	495
PRINTER	PAS	38	10410
PRINTNEC	BAS	7	5504
PRLIST	BAS	35	3584
PROFILE	BAS	6	640
PROFILE	MEM	6	256
PROFILER	BAS	6	1792
PROGRAM	DOC	2	5959
PRT	CTL	5	51
PRT40	CTL	5	55
PRT80	CTL	5	51
PRTFIX	COM	16	128
PRTFIX	DOC	16	123
PRTGRAF	BAS	25	1152
PRTSET	BAS	6	1664
PRTSETUP	VC	24	2560
PSTYLES	BAS	21	2816
PUFF	BAS	34	384
PVTAX	BAS	12	640

Q

Q	BAS	9	384
QD	COM	16	2176
QD	DOC	16	4992
QD	EXE	43	2816
QDXT	EXE	43	2688
QM	EXE	43	2816
QMXT	EXE	43	2816
QSL	BAS	35	1792
QSORT	BAS	21	2560
QSPPOOL	COM	43	846
QSWAP	COM	43	281
QTR2G	BAR	24	384
QUADRAM	DOC	43	2057
QUIKUP	COM	43	192
QUIKUP	DOC	43	1567
QUIKUPQD	COM	43	185
QUILT	PIC	22	16512

R

R1	BAS	37	768
R2	BAS	37	768
R3	BAS	37	768
R4	BAS	37	768
R5	BAS	37	768
RACJAM	SCO	34	268
RANGERD	BAS	34	1280
RATBAS	TXT	3	30080
RATBAS	UM	3	9856
READING	BAS	28	1536
REAL\$	BAS	9	1664
RECAP	BAS	33	9344
RECORDD	BAS	33	3968
RECORDP	BAS	33	4224
REGRESS	BAS	12	768
REMOVE	BAS	26	1280
REPORTS	BAS	35	10496
RESCMD	BAS	11	2688
RESCMD	DOC	11	4386
RESCMDCK	BAS	11	5504
ROD	BAS	43	768
ROMCHAR	BAS	39	1024
RT	EXE	3	35456
RT	UM	3	3328
RUBIK	BAS	34	2432
RUN	BAT	29	128
RUNCOLOR	BAT	23	53
RV-EDIT	BAS	29	8960
RV-EDIT	DOC	29	10368

S

S	BAR	24	256
S1	BAS	37	1024
S2	BAS	37	1024
S3	BAS	37	1024
S4	BAS	37	1152
S5	BAS	37	1280
S6	BAS	37	1024
S7	BAS	37	896
SAMPLE	BAS	5	2313
SAMPLE	PAS	13	4822
SAMPLES	BAS	1	128
SATURN	BAS	4	768
SATURN	BAS	21	512
SCHEDULE	BAS	33	2304
SCOPE	BAS	30	4736
SCORES	BAS	33	8704
SCRAMBLE	BAS	39	3968
SCREEN	ASM	25	2636
SCREEN	BAS	4	1920
SCREEN	EXE	25	1280
SCREEN	PAS	38	1152
SCREENS		21	512
SCROLL	ASM	16	3038
SCROLL	BLD	16	128

SCROLL	DOC	16	4752
SCROLL1	BAS	16	1284
SCROLL2	BAS	16	1673
SCROLLK	BAS	42	2860
SCROLLK	COM	42	251
SD	COM	11	1505
SDIR	COM	2	1280
SDIR	EXE	11	1792
SDIR22	ASM	17	23429
SDIR22	COM	17	1312
SECRETNO	BAS	20	2071
SERPENT	BAS	39	2944
SETCOLOR	ASM	37	3388
SETCOLOR	BAT	23	49
SETCOLOR	COM	37	112
SETPRTR	C	43	5504
SETPRTR	EXE	43	7296
SHELL	BAT	16	509
SHELLSRT	BAS	24	640
SIREN	BAS	22	128
SLOTMACH	BAS	39	4864
SNOW1	BAS	21	128
SNOW2	BAS	21	128
SNOW3	BAS	21	128
SONGS	BAS	34	7424
SORT	BAS	24	1152
SORT	EXE	36	36096
SORT	INC	3	896
SORT	PAS	36	5248
SORTFILE	BAS	33	2944
SOUNDS	BAS	16	4736
SPACE	BAS	1	1408
SPEED411	COM	11	15
SPEEDUP	BAS	21	512
SPEEDUP	COM	21	128
SPINOUT	BAS	39	3968
SPOOLBAS	BAS	42	1536
SPOOLER	DOC	42	958
SPOOLER1	COM	42	768
SPOOLER2	COM	42	896
SPSHIPS	BAS	24	768
SQUISH	BAS	9	6528
SQUISH	DOC	9	5566
SQUISH	DOC	11	6431
SQUISH	EXE	11	28928
SQUISH	SRC	11	7257
SS	BAR	24	384
SSS	BAR	24	384
SSSSS	BAR	24	256
SSSSSS	BAR	24	256
STARLANE	BAS	6	15104
STARS	BAS	20	2663
START	BAS	21	384
START	BAS	25	256
START	BAT	36	128
STARTREK	BAS	2	25600
STARTREK	BAS	23	14208
STARTREK	BAS	26	14208
STARTREK	BAS	27	14208
STARTREK	DUM	23	128

STARTREK	DUM	26	128
STARTREK	DUM	27	6144
STARTREK	HOW	23	6144
STARTREK	HOW	26	6144
STARTRK2	BAS	27	6144
STARTUP	BAS	37	384
STARTUP	BAT	9	62
STARWARS	BAS	33	4224
STICK	BAS	6	384
STORY	BAS	20	5666
STRIKE9	BAS	20	2100
STRINGS	BAS	1	512
SUPRTREK	BAS	26	25600
SURROUND	BAS	39	4864
SURVIVAL	BAS	4	19328
SURVIVAL	BAS	27	19200
SYNONYM	BAS	28	3840
SYNONYM2	BAS	28	2048
SYS	BAS	9	384
SYSTAT	COM	2	1408
SYSTAT	COM	11	1408
SYSTAT	DOC	11	1050
SYSTEM	BAT	29	128

T

TABSET1	PAS	38	2560
TABSET2	PAS	38	2944
TALK128	BAT	18	10
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TAXRETRN	VC	33	24320
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TEST	BAS	3	5632
TEST	BAS	25	128
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TESTSCRN	BAS	21	16512
TICKTOCK	BAS	24	128
TICTACTO	BAS	34	3200
TIME	BAS	9	640
TIMI	PAS	38	512
TIMING	BAS	11	384
TIMM	PAS	38	1152
TIMU	PAS	38	1792
TOWERS	BAS	34	2304
TRANDUMP	BAS	21	1280
TRANSFER	BAS	29	384
TRAP	BAS	20	1152
TREASURY	BAS	12	1536
TREK	BAS	37	17152
TRUCKER	BAS	28	17024
TWOSIDE	BAS	21	2176
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U

UNPROT	TXT	2	1455
UNPROT2	TXT	11	1117
UNSQ	PAS	38	4603

UPDATE	BAT	9	18
USA	PIC	23	16512
USASTATE	PIC	23	16512
USATEMP	PIC	23	16512

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VDEL	COM	11	768
VDISK	ASM	17	8724
VDISK	COM	17	672
VDISK2	ASM	17	8726
VDISK2	COM	17	672
VIDEO	ASM	38	1351
VOLSER	COM	17	1152
VOLSER	DOC	17	2343

W

WAIT	COM	11	128
WAITIN	BAS	21	128
WASH	COM	9	3328
WASH	DOC	9	15872
WELCOME	BAS	25	4224
WILLTELL	BAS	39	384
WILLTELL	DAT	39	4096
WOMBAT	BAS	1	15232
WORDS	BAS	28	2560
WORM	PIC	22	16512
WORM1	BAS	30	1408
WORM2	PIC	22	16512
WS-DOS	BAS	42	4354
WUMPUS	BAS	34	10368

X

XDIR33	DOC	32	34176
XDIR33	EXE	32	51968
XOFF	DOC	17	1353
XOFF	MRG	17	4448
XREF	PAS	38	22043

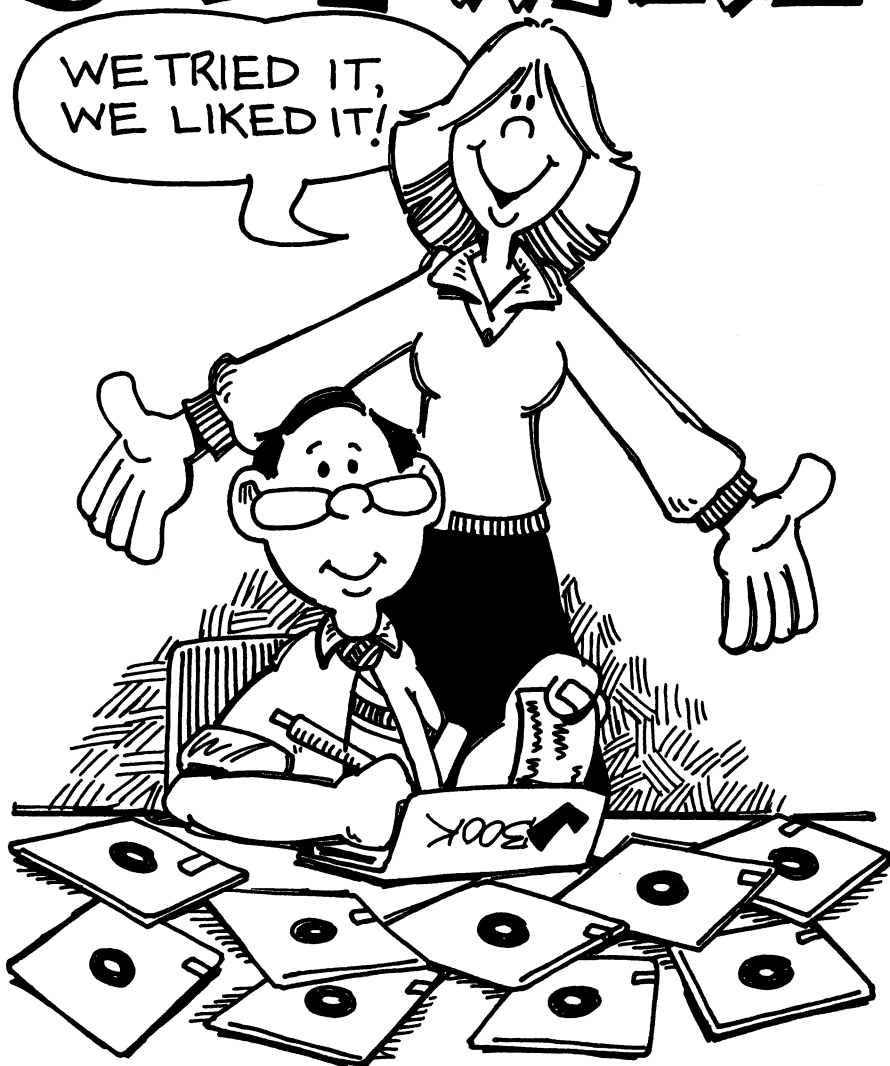
Y

YAHTZEE	BAS	1	15104
YAHTZEE	BAS	24	9728
YAHTZEE	BAS	30	16000
YESTER	BAS	34	512
YR17	BAR	24	384
YR20	BAR	24	512

Z

ZAP'EM	BAS	39	4224
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ZELLER	BAS	6	640
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ALMOST FREE SOFTWARE



ALMOST FREE: USER SUPPORTED SOFTWARE

This story starts shortly after Andrew Fluegelman (who is now editor-in-chief of *PC World*) got his brand-new IBM PC computer. Fluegelman, a veteran of ten years in publishing, was collaborating with a co-author on a book. The two men wanted to exchange drafts by telephone. This involved two-way communication between their (different) computers using modems at each end.

Initially Fluegelman bought IBM's Asynchronous Communications Package to control the modem transmitting and receiving functions. Unfortunately, or so it seemed at the time, the result was more noteworthy for frustration than for the desired communication between computer users at their consoles.

Next step? How about writing a better program to do the job? Since Fluegelman was an experienced and savvy programmer, that was the course he chose. And the initial problems were followed by the proverbial happy ending: the first version of PC-TALK, a communications program for the IBM PC.

The next question which occurred to the author, in view of his publishing background, followed naturally. Since the new program seemed to do what he wanted done, and do it better than the commercial software that was currently available, how about marketing it to other computer users who might also find it suitable for their purposes?

He decided on a novel experiment. Instead of publishing a manual, providing a disk, working out a marketing and distribution plan, attempting to protect against copying by "pirates"—and as a result of incurring all those costs, having to charge a high price for the software—Fluegelman tried an entirely different approach.

He made his program available, at no cost, to anyone who wanted to use it. Copying was encouraged. Users were invited to copy the program and share it with others (but NOT sell it). The PC-Talk program could be obtained by anyone who sent a disk and postpaid mailer to The Headlands Press in Tiburon.

Or people could get copies from friends or from bulletin boards or through users' groups. Manual and instructions were included on the disk, in print-ready format. The printing process and the copying process were both made exceedingly simple for the user, via batch files on the disk.

The only prohibitions were against changing the program and then giving other people copies of the altered form (for obvious reasons: the changes might have introduced bugs) and against removing the opening message which appeared on the screen when the program was run. (The 1982 version of that message suggested that users who liked the program send \$25. Since then the program has continued to evolve, with refinements and improvements added in updates which users can obtain.)

When you run PC-Talk III, the following message appears on the screen:

```
----- F R E E W A R E -----™  
  
User-Supported Software  
  
-----  
If you are using this program and finding it of value, your contribution  
($35 suggested) will be appreciated.  
  
=== Freeware ===  
Post Office Box 862  
Tiburon, CA 94920  
  
You are encouraged to copy and share this program with other users, on  
the conditions that the program is not distributed in modified form, that  
no fee or consideration is charged, and that this notice is not bypassed  
or removed.  
  
-----  
Copyright (c) 1983 The Headlands Press, Inc.
```

Originally, Fluegelman announced the availability of PC-Talk through notices on the Source and CompuServe bulletin board systems. The response to his message offering the program to anyone who sent a disk proved the soundness of the marketing concept.

Not only did the majority who requested PC-Talk make the suggested donation, but many users wrote letters with comments and suggestions for extensions and improvements to the program. The letters were overwhelmingly complimentary.

Since then, most of the people who use PC-Talk probably receive their copies from other users or through clubs. This makes it almost impossible to estimate how many people are using PC-Talk. The program has, however, appeared among the top ten in *Softalk* magazine's monthly software popularity survey.

The *PC Tech Journal* recommends PC-Talk III highly as an excellent, mature program, suitable for both personal and professional use.

PC-Talk III has also been reviewed very favorably in *PC* magazine (July 1983). Stephen Manes' comparison article was headlined, "In the battle for the Communications Belt, PC-Talk III, the West Coast 'People's Choice,' holds its own against Smartcom II, the 'Menu Kid' from Georgia." The conclusion the article comes to: "... no matter what modem you're using, you'd be smart to spar with PC-Talk III."

All-in-all, the experiment must be rated a resounding success. So if you need a communications program, try it. Odds are you'll like it.

More User-Supported Software

The same general approach has been adopted by numerous other programmers since then. Anyone who wishes can obtain a copy for leisurely trial and evaluation, FREE, by sending a formatted disk and a postage-paid, addressed return mailer to the author. (Two disks are required for a few programs.)

All documentation and relevant files are provided on the disk. When you receive the disk, you need to:

- 1) Start your machine with your normal system disk.

2) Check the directory of the disk you have received. Look for a file called "README", or a file with extension ".DOC" or ".LST" or some analogous name, indicating a text file which you can read by using the "TYPE" command in DOS, followed by the name of the file. (For more details on printing out manuals or the contents of a text file, see instructions in the chapter on club library disks.)

3) Copy the files that you need or use the program on a disk you have formatted with the system, so you will be able to run the programs by simply loading in your use disk. Keep the other as a backup.

More

The next program in this family to attain wide popularity was PC-FILE.

PC-FILE, by Jim Button, is a "database manager" program, competing against many expensive commercial heavyweights in the field of handling and storing information for convenient retrieval.

The most recent version, copyright 1984 (after many previous updates and enhancements), is PC-FILE III. Again, permission to copy is granted under the same conditions—no modification of program or documentation.

Button writes: "After you have had a chance to use and evaluate the program in your own environment, you are trusted to either forward a payment to the author, or to discontinue use of the program."

For users in the business environment who need a bill for company payment or for tax records, Button provides an actual invoice for the \$45 requested payment.

On page 30 of his PC-FILE III™ USERS GUIDE, Button answers some "frequently asked questions" as follows:

Question: "What is your update policy?" Answer: "I'll notify all registered (contributing) users whenever a new version of PC-FILE III becomes available. The cost of an update will usually be \$10 (to registered users)."

Question: "Do you have any other programs that you're distributing?" Answer: "Yes. I have an excellent communications program." (Also user-supported software—this specifies suggested contribution of \$25.)

Button also states that he is currently working on a spreadsheet program and a graphics program which will work with the PC-FILE III database, to be ready soon. After that he plans to develop a word processing program to round out this software family.

PC-WRITE

PC-WRITE, a word processing program by Bob Wallace of Seattle, was reviewed very favorably in the February 1984 issue of *PC* magazine. The reviewer concludes, in the last paragraph of a 3-page article, by saying that PC-Write has become his word processor of choice, with superb performance and possibilities for customization.

LADYBUG, an implementation of Logo graphics

A fairly new entry, in an entirely different sector of the application spectrum, "is still a baby," according to the author. David Smith originally wrote the material for his own children, and decided to distribute VERSION 0.9—PRELIMINARY in September 1983.

Children or adults can draw interesting and involved pictures on the screen by using the LADYBUG procedures and commands.

More and More to Come

The success of the concept has led other writers to decide to share their programs on the same basis. Enough such software is now available to make a descriptive catalog worthwhile.

Frank Canova (himself an author of user-supported software) has prepared a compilation of available programs, which he plans to update regularly.

In the following pages, we reprint the January 1984 revision of the catalog, with thanks to Frank Canova for the work which went into its compilation. He includes the authors' descriptions of what their programs do, as well as information about system requirements, how to get copies, and suggested contributions.

If you have a modem, note the instructions for telephoning to receive updates.

CATALOG OF USER SUPPORTED SOFTWARE

===== 01/02/84 revision =====

This catalog is furnished by:

Seaware Corporation
P.O. Box 1656
Delray Beach, FL 33444
(305) 276-5072

This is a catalog of User Supported Software. It is supplied as a service to customers and potential customers. The latest revision of this catalog and further information about our own software (Extended Batch Language) is always available by calling the BAT-BBS at (305) 276-5072. (BAT-BBS is a combination voice/data phone line. 4 rings = voice. 2 rings/hangup/redial = BAT-BBS modem connection.) In no way is this list an endorsement by Seaware Corporation of any product shown. Although every effort is made to be accurate, Seaware Corporation is not responsible for errors in this catalog, typographical or otherwise. Unless otherwise noted, all programs run on an IBM™ Personal Computer. Please note that software for ALL types of equipment is invited to be on this list.

If you wish to receive a program listed in this catalog, please communicate directly with the author or contact source listed below. Seaware Corp. does not have the program, nor will it handle your contributions (unless specifically indicated).

Freeware is a concept and trademark of Andrew Fluegelman (The Headlands Press, Inc., Box 862, Tiburon, Ca, 94920). Each package displays a notice asking for a voluntary contribution to be sent to the author. Andrew's Freeware package is PC-Talk, a communications program.

The Freeware concept is based on these principles:

- People need to try programs to see if they are useful.
- Software authors can be supported directly by users.
- Copying and networking of programs can be encouraged.

If you are the author of a user supported program, please leave a message on the BAT-BBS as to the details of your public offer or write to Seaware at the above address or by EMAIL on CompuServe 71426,204.

Permission is granted to copy and share this catalog provided the above notice is included and unaltered. Thanks for the many wonderful comments I have received so far ... Frank Canova, President Seaware Corp.

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CATALOG SUMMARY

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COMMUNICATION:

PC-TALK III		by Headlands Press (Fluegelman)
PC-DIAL	ver 1.4	by Jim Button

DATABASE MANAGEMENT:

PC-FILE III	ver 1.0	by Jim Button
ABC-FILE		by DND Enterprises (David Valk)

EDITORS:

FRED	ver 1.21	by David N. Smith
PC-WRITE	ver 1.0	by Quicksoft (Bob Wallace)

UTILITIES:

EXTENDED BATCH LANGUAGE

	ver 2.00b	by Seaware (Frank Canova)
ULTRA-ZAP	ver 2.00	by FreeSoft (Wat Buchanon)
ULTRA-FORMAT	ver 2.00	by FreeSoft (Wat Buchanon)
ULTRA-FILE	ver 2.00	by FreeSoft (Wat Buchanon)
DESK TOP MANAGER		by Micromputer Management
QSYS		by Dennis Lee

ANALYSIS PROGRAMS:

EPISTAT	ver 2.0	by Tracy L. Gustafson
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LANGUAGES:

LADYBUG	ver 0.9	by David N. Smith
CHASM	ver 2.04	by David Whitman

GAMES:

PC-CHESS	ver 1.1	by Mike Carpino
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PROGRAM : PC-TALK
LATEST REVISION : 3

SUGGESTED CONTRIBUTION: \$35

CONTACT : The Headlands Press, Inc.
P.O. Box 862
Tiburon, CA 94920

AUTHOR : Andrew Fluegelman

SYSTEM REQUIREMENTS: 96k IBM Personal Computer (interpreted) or 128k (to run compiled). An asynchronous communication adapter. A Hayes Smartmodem (recommended) or other modem (300 baud or 1200 baud). A printer (optional).

CONTRIBUTION PROVIDES: A diskette with source of the latest version.

DESCRIPTION: PC-TALK is a general purpose communication program which allows complete freedom in making connections to external computer equipment by using the asynchronous communication adapter. Its primary flexibility comes with its ability to control a Hayes Smartmodem. For the Hayes modem, a dialing directory is available. Options are also available to control baud rate, system parameters, screen "snap-shot" printing/storage, data transfer (ASCII, binary, pacing, and XMODEM modes), diskette directories, disk data previewing, and more.

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PROGRAM : PC-DIAL™
LATEST REVISION : 1.4

SUGGESTED CONTRIBUTION: \$25

CONTACT : Jim Button
P.O. Box 5786
Bellevue, WA 98006
(206) 746-4296

AUTHOR : Jim Button
Source: CL2925
Compuserve: 71435,2012

SYSTEM REQUIREMENTS: PC-DIAL requires a 96K or larger IBM PC, one disk drive, and a serial I/O port with a Modem. You must also have a video monitor capable of displaying 80 characters per line.

CONTRIBUTION PROVIDES: Program and documentation on diskette. Registered users can upgrade to this version by sending \$10.

DISKETTE ONLY : Send diskette with return postage & mailer or \$6.

DESCRIPTION: PC-DIAL is a general purpose asynchronous communications program. It employs a simple and straightforward approach, with capabilities that surpass those of many of the more expensive communications programs on the market today.

With PC-DIAL you will be able to:

- Communicate at speeds up to 9600 baud (limited by the speed of your serial port and modem.)
- Exchange (send or receive) text files with other computers. While sending text files, you may dynamically send selected records from the file and skip past other records not to be sent.
- Exchange (send or receive) non-text (EXE or COM) files with other computers which support the “X-Modem” protocol.

- Use modems which don't support Auto-dial.
- Use modems which do support Auto-dial. This includes not only the Hayes SmartModem, but also a variety of other modems which use other commands to AutoDial a phone number.
- Continuously redial a number until connection is established.
- Capture incoming data in a disk file.
- Set up your own "filters" to remove or change undesirable characters in the incoming data.
- Dynamically slow down the speed at which you transmit, so as not to overrun the computer at the other end.
- Dynamically alter your communications parameters, such as parity, speed, and number of data bits.
- Build automatic logon sequences of any length, to enable you to log on to a variety of remote computers without having to remember phone numbers, passwords and access commands.
- Change the colors of your display (if you have a color display) to suit your personal taste.
- Move back and forth between different directories on your hard disk (if you have DOS 2.0) for retrieving and sending data.
- Communicate properly with computers which use "XON/XOFF" characters.

In short, PC-DIAL is easy to use, easy to understand, powerful, and small in size.

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PROGRAM : PC-FILE III™
LATEST REVISION : 1.0

SUGGESTED CONTRIBUTION: \$45

CONTACT : Jim Button
P.O. Box 5786
Bellevue, WA 98006
(206) 746-4296

AUTHOR : Jim Button
Source: CL2925
Compuserve: 71435,2012

SYSTEM REQUIREMENTS: PC-FILE III requires at least 320K of disk storage, and a 96K or larger IBM-PC “compatible” computer with DOS and a printer to print out documentation. Database sizes of up to 10,000 records are supported.

CONTRIBUTION PROVIDES: Program and documentation on diskette. Registered users can upgrade to this version by sending \$10.

DISKETTE ONLY : Send diskette with return postage & mailer.

DESCRIPTION: PC-FILE III is a general purpose “Data Base Manager” system designed for ease of use. Databases can be defined, added to, modified, deleted from, queried, and sorted for report generation.

You can use PC-FILE III for all kinds of tasks:

- Maintain mailing lists and print labels, 1-up or multi-up.
- Maintain many kinds of lists, such as price lists, telephone lists, personnel records, customer lists, name/address directories.
- Freely exchange data between PC-FILE III and many other programs, such as VisiCalc, Multiplan, 1-2-3, and MailMerge.

— Maintain “security protected” data. These databases are maintained in an encrypted form and cannot be viewed by persons not knowing the security key.

PC-FILE III allows rapid access to any record in the database, with a sophisticated search technique allowing comparison searches, generic searches, or soundex searches on any field in the record.

You can print reports from your database, selecting records on up to 10 different comparisons, with subtotals, and totals. Report columns can also be “calculated” based on information in other fields of the record.

You can rebuild your database at any time, adding, deleting or rearranging fields and changing field lengths.

But above all else, PC-FILE III is EASY! Most people can use it with no training or instructions.

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PROGRAM	: ABC-FILE
LATEST REVISION	: ?

SUGGESTED CONTRIBUTION: \$30

CONTACT	: DND Enterprises
	6215 Quiet Water Pl.
	Charlotte, N.C. 28214
	704-393-0489

AUTHOR	: David Valk
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SYSTEM REQUIREMENTS:	—IBMPC/XT with at least 1 disk drive
	—Epson FX-80, MX-80 or equiv.
	—Color or monochrome monitor
	—128k available memory

CONTRIBUTION PROVIDES: Program and documentation on diskette. Registered users will be notified of all future releases and updates.

DISKETTE ONLY : Send formatted blank diskette with return postage and mailer.

DESCRIPTION: ABC-FILE is a User Friendly File Management System that offers USER DEFINED FIELDS (Name & Length), Automatic error checking of fields on Entry, and Automatic INDEXing of the Primary field.

Indexes may be built on any or all fields, by user selection. A Report generator is included to format reports to the console, the printer, or to print one of two available Label formats. Fields to report may be selected in any order and report width is monitored & error checked. An alternate Automatic function may be selected to format reports for you.

Reports may be sorted on any of the available Indexes, selection criteria may be entered to select on any field. Selection methods include, =, <>, >, <, KEYWORD, or NOT KEYWORD. The printing of Labels also takes advantage of the report selection methods, allowing printing to a particular ZIP or CITY etc.

Locating of records is available in two forms, one by record number, and two, the FIND function which utilizes a binary search to locate records on user entered criteria for any indexed field. Typical "Finds" require 1 to 1.5 seconds. Once found the Database may be paged forward or backward with one keypress, Records may be Modified, Deleted, or Recalled (Un-Delete).

Other features include Importing files from other programs, Packing the database, Changing the screen colors to taste, Sound on/off, Changing datafiles from within, Sorting in descending order, and Online HELP screens.

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PROGRAM : FRED (FRee EDitor)
..... : 1.21

SUGGESTED CONTRIBUTION: \$20

CONTACT : David N. Smith
44 Ole Musket Lane
Danbury, CT 06810

AUTHOR : David N. Smith

SYSTEM REQUIREMENTS: IBMPC, 1 diskette drive, 96K
memory

DISKETTE ONLY : Send diskette with return postage
& mailer.

DESCRIPTION: FRED is a full screen editor for the IBM PC. It displays files up to 1500 lines long and with lines up to 254 characters long on a monochrome display or 80 column graphics display. The screen is a window onto the file. The window can move up, down, left and right. Lines which are longer than the screen are partly displayed. If you insert data, characters seem to be lost off of the end of the line; they are not lost but are just no longer displayed. Move the cursor off of the screen to the right and they will reappear as the window moves.

If a file is too big to fit into memory, it complains politely; if memory nears the limit while you are editing, FRED tells you and lets you continue editing but won't let you add more lines. In general, it is forgiving; you can even remove the diskette it is reading from or writing to without bombing it or losing data in memory but I do not recommend it (nor guarantee it).

It updates the display buffer directly so that screen updates appear instantaneous; it is fully possible to scroll through a file at typamatic speeds.

FRED is written in about 590 lines of compiled BASIC and about 30 lines of assembler. Since its performance is horrid except when compiled, source is not distributed.

FRED is similar to the IBM Personal Editor; most of its keys are the same and its approach to handling the screen is about the same. I use the Personal Editor; FRED was an experiment from some time ago which I had laid aside. Several months of reading the dialogs on the IBM PC Special Interest Group on CompuServe convinced me that there are many people out there who still use EDLIN and who will never pay \$100 for an editor. Therefore I got FRED out and polished it up a bit to give away. I hope that people find it useful.

The documentation is somewhat sparse; there is no tutorial and little else but a list of keys. I suspect that most PC users won't have any trouble using it since most of the keys do the "right" thing.

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PROGRAM ..... : PC-Write
LATEST REVISION ..... : 1
```

SUGGESTED CONTRIBUTION: \$75

CONTACT : Quicksoft
219 First N. #224
Seattle, WA 98109
(206) 282-0452

AUTHOR : Bob Wallace

SYSTEM REQUIREMENTS: ?

CONTRIBUTION PROVIDES: Registration provides additional services, such as source files, telephone support, a printed manual, and a free copy of the next updated version.

In addition, registered owners receive a commission (\$25) when someone registers one of the owner's copies. This commission is not multi-level or "pyramidal", since only one person receives it. It's just a sales commission.

People who like PC-Write register and give copies to friends or business associates with IBM PCs. If one registers, they get a check in the mail, an extra bonus.

To register your copy, send the amount requested to Quicksoft, or call with your Visa/ MasterCard number. We will need your old registration number so we can properly credit the owner. You will receive your new registration number over the phone or with your other materials.

DISKETTE ONLY: \$ \$10

DESCRIPTION: PC-Write is a word processor and text editor for the IBM Personal Computer. It helps you write and format books, reports, letters, programs, manuals, or other text.

PC-Write was developed for the IBM Personal Computer. It may not run on other computers, even those which claim to be “compatible” with the IBM PC. If you are trying to use PC-Write on another machine, you may be out of luck. Some, such as the Compaq, may be compatible enough.

The PC-Write diskette contains two programs: the editor and page printer. You use the editor to create your text, and the page printer to divide it into pages for printing.

If you have never used a computer or an editing program, welcome to word processing! The manual includes a tutorial section to help you get started. It also avoids the use of technical jargon as much as possible.

If you have used other editing programs, especially full screen editors, you will find PC-Write easy to pick up. You will also find it small, fast, and responsive.

PC-Write includes many features:

- Insert, replace, and delete text anywhere you want.
- Search for a piece text and replace it with other text.
- Move and copy blocks of text from one place to another.
- Set margins and tabs, reformat and justify paragraphs.
- Print your text in pages with headers and footers.

- Split screen mode lets you edit two files at once.
- Search and replace use “wild card” match characters.
- Very fast operation lets you edit efficiently.
- Convenient transpose, change case, and bookmark keys.
- You can set any Control key to be any other key.

=====

PROGRAM : Extended Batch Language

LATEST REVISION : 2.00b

SUGGESTED CONTRIBUTION: \$30 (suggested contribution for public use; \$30 license fee required for business use)

CONTACT : Seaware Corp.
P.O. Box 1656
Delray Beach, FL 33444
(305) 276-5072

AUTHOR : Frank Canova

SYSTEM REQUIREMENTS: 64k IBM Personal Computer and PC-DOS (any version) and any type of diskette or hard disk. There are no other system requirements.

CONTRIBUTION PROVIDES: A diskette with the program, demonstration files, and samples. A 70 page hardcopy manual with examples, tips, and descriptions. A password and user ID to the BAT-BBS, a hot-line for help, tips, swapping programs with other users, free updates, and other services such as this catalog.

DISKETTE ONLY : \$5 for diskette and postage/handling.

DESCRIPTION: Extended Batch Language is a command programming language. It is a high level language that can be used as a direct replacement or in conjunction with DOS batch files. It can operate with IBM DOS versions 1.0, 1.1, 2.0 or 2.1. Compared with standard DOS batch files, BAT has superior control structures, string handling, and user interfaces. It also has tracing facilities, and is easy to learn and use. Many aspects of the language are like BASIC. Users of VM/370 will also find it similar to EXECs. The effect of using BAT is to put “covers” on the programs and system that it controls. A friendly, easy to use interface is easily created.

Extended Batch Language has more power and enhanced capabilities than either DOS 1.1 or DOS 2.1. This program uses these capabilities to solve common problems for.....

The system programmer—who needs to do long sequences of tasks between linker, compilers, debuggers, and editors. He can now create an intelligent link between these programs. For instance, he may wish to do a link depending on whether the previous compile was successful. He can also respond automatically from a keyboard “stack” into various utilities.

The secretary—who has several types of tasks to perform (word processing, accounting packages, etc.) and requires a simple way of changing from one type of task to another with a menu, perhaps with optional help text.

The student—who wishes to go from one game to another without having to learn the system commands required to make each available.

Testers—who wish to automate long, boring tests and procedures on the personal computer. An excellent tool for a manufacturing line.

With Extended Batch Language, you can have:

- Better control of messages to the screen**
- Accept responses from the user and create responses to programs**
- String handling operations (substring, length, etc.)**
- Arithmetic expressions and assignments within batch variables**
- Comparisons and program return codes**
- Search for files or tell if they exist**
- Complete freedom to mix DOS and BAT commands within the same control file**

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The package includes:

- **Ultra-Zap:** Program for displaying/modifying disk sectors and file sectors, copying disk sectors, searching for byte or character sequences in disk or file sectors, filling or zeroing disk sectors, and interrogating diskettes to display their protection techniques. This program can work on any disk sector, regardless of protection, etc.
- **Ultra-Format:** Can format standard or copy-protected disk tracks, also can repair files containing “flaky” sectors by placing a fresh format on a track without erasing prior data.
- **Ultra-File:** Program for displaying all directory information about a disk file, assigning or removing SYSTEM or HIDDEN status to a file, building files from scratch, resurrecting accidentally erased files, and selectively killing files from a menu (FAST!).

All in all, it is an extremely powerful package that makes life much easier for you and your IBM-PC.

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PROGRAM : DESK-TOP MANAGER

LATEST REVISION : ?

SUGGESTED CONTRIBUTION: \$25

CONTACT : Microcomputer Management
45 Drum Hill Road
Concord, MA 01742

AUTHOR : ?

SYSTEM REQUIREMENTS: ?

CONTRIBUTION PROVIDES: ?

DISKETTE ONLY : Free programs if you send two formatted double sided disks and a prepaid mailer.

DESCRIPTION: It is a desk top aid for executives. Amongst many other things, it contains macro and menu-writing for 1-2-3. All choices are user-modifiable.

((more details will be available at later date))

DT is being marketed under the FREEWARE™ concept. To get your copy, send TWO FORMATTED DOUBLE SIDED DISKS and a PREPAID MAILER, and we'll return DT. If you like it, we ask for a \$25 donation. Or, send the \$25.00 and we'll supply the disks and postage.

Microcomputer Management
45 Drum Hill Road
Concord, MA 01742

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PROGRAM : QSYS
LATEST REVISION : ?

SUGGESTED CONTRIBUTION: \$35

CONTACT : Dennis Lee
5617 Murdoch
St. Louis, MO 63109
CompuServe: 70376,452

AUTHOR : Dennis Lee

SYSTEM REQUIREMENTS: DOS 2.0, 128K Memory, Color/ Graphics Monitor Adapter, 80 Column Video Monitor (B&W or Color), 2 Double-Sided/ Double-Density Diskette Drives or a Winchester Drive and 1 Double-Sided/ Double-Density Diskette Drive.

CONTRIBUTION PROVIDES: Dennis will send you a diskette of his very own with all of the QSYS system programs, documentation file and the Installation Aid. In addition, I'll keep your name on file and offer you upgraded versions at a substantially lower price as they become available.

DISKETTE ONLY : Send a double-sided diskette with a postage-paid diskette mailer and Dennis will copy the QSYS programs, documentation and Installation Aid and return the diskette to you—FREE!

DESCRIPTION: QSYS is a set of programs designed to help you integrate your existing program library into a menu-driven system supporting multiple users who need not have a working knowledge of DOS, while providing a measure of protection from unauthorized program, file or DOS command usage. QSYS also includes an Appointment Calendar–Message System with a concurrent time-keeper which can signal you of a pending message while the system is running another program.

HERE ARE A FEW OF THE QSYS SYSTEM FEATURES:

—MENU DRIVEN BATCH FILE CREATION

Your programs or batch files from the SYSTEM MENU or command line and DOS commands can be sent to a 'JOBQ' for execution as a batch file under DOS.

—BATCH FILE EDITING CAPABILITIES

Entries in the JOBQ can be deleted or the sequence of execution can be changed before the JOBQ is released for execution.

—FULL DOS 2.0 BATCH FILE COMMAND IMPLEMENTATION

The JOBQ can execute another batch file with automatic return to complete JOBQ execution. The DOS Command Processor can be called from the JOBQ with automatic return upon termination.

—AUTOMATIC PROMPTS FOR NECESSARY RESOURCES

Batch file commands are automatically included in the JOBQ to prompt for necessary diskettes and retry a failing load operation.

—SECURITY SYSTEM

A user defined Password entry is required for access to most system functions. A user may be restricted from executing selected programs from the SYSTEM MENU or from entering commands on the command line.

—APPOINTMENT CALENDAR—MESSAGE SYSTEM

Visual notification of a pending message is concurrent with other system tasks. A full screen CLOCK/CALENDAR with audible notification of a pending message when the system is inactive.

—SYSTEM SUPPORT

A complete documentation file is included. Comprehensive error trapping routines in all system programs with automatic recovery whenever possible. An INSTALLATION AID is also included providing easy installation of a complex system with minimal knowledge of DOS.

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PROGRAM : EPISTAT
LATEST REVISION : 2.0

SUGGESTED CONTRIBUTION: \$25

CONTACT : Tracy L. Gustafson, M.D.
1705 Gattis School Road
Round Rock, TX 78664

AUTHOR : Tracy L. Gustafson, M.D.

SYSTEM REQUIREMENTS

MINIMUM	OPTIMAL
IBM PC with 64K RAM	IBM PC with 96K RAM
One 160K disk drive	Two disk drives
Color/graphics adapter	Color graphics adapter
Monochrome monitor	Hi-res color monitor
BASICA	BASICA
	IBM or Epson printer with graphics

CONTRIBUTION PROVIDES: Program and documentation on diskette.

DISKETTE ONLY : Free programs if you send diskette.

DESCRIPTION: EPISTAT is a collection of programs written in BASICA for statistical analysis of small to medium-sized data samples (<1000 observations per sample and <28 data samples per file). It includes programs to ENTER, APPEND, and EDIT data, as well as perform several kinds of data TRANSFORMATIONS. The datafiles can be PRINTED, GRAPHED, or SAVED to disk. The 21 programs in EPISTAT can also perform 34 common statistical tests or functions.

The programs are intended to be as self-explanatory and user-friendly as possible. All questions can be answered with a number, a "Y" for yes, or an "N" for no. A thorough study of this guide is not necessary before using the programs. On the other hand, neither the programs nor this manual purport to TEACH the proper use or interpretation of statistics. Rather, some familiarity with the kinds of data required and the underlying assumptions appropriate to each statistical test is assumed.

One will note that some of the programs emphasize epidemiologic and medical applications. Despite the wording of various program questions or statements, these tests also apply to many other types of data. For further explanations of tests, refer to:

- 1. Colton, Theodore. *Statistics in Medicine*. Little, Brown and Co. Boston, 1974.
- 2. Fleiss, Joseph. *Statistical Methods for Rates and Proportions*. John Wiley and Sons. New York, 1973.

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PROGRAM : LADYBUG
LATEST REVISION : 0.9

SUGGESTED CONTRIBUTION: \$35

CONTACT : David N. Smith
44 Ole Musket Lane
Danbury, CT 06810

AUTHOR : David N. Smith
CompuServe: 73145,153.

SYSTEM REQUIREMENTS:

- 128K of memory.
- One single sided disk drive. (But two, or a double sided are recommended.)
- A graphics adaptor.
- A graphics display of any kind. (Color is supported only on a color display; 80 column editing is supported only on a high resolution monitor.)
- DOS 1.1 or 2.0
- An IBM PC.

DISKETTE ONLY: Free, send a diskette and a self addressed returnable mailer to above address.

DESCRIPTION: LadyBug is a graphics language based on LOGO Turtle Graphics. It contains most of the graphics commands, procedure making commands, and control commands from the Apple II⁽¹⁾ implementation of LOGO done by Terrapin, Inc. This version is described in the book LOGO FOR THE APPLE II, by Harold Abelson, published by McGraw-Hill in 1982. It is very similar to other versions for the Apple II, Texas Instruments, and TRS-80⁽²⁾ computers.

LadyBug is a version of LOGO patterned after the Apple II implementation developed by Terrapin, Inc. In general it has:

- All of the graphics commands.
- All of the mathematical computations.
- All of the control commands.

In addition it has:

- A large library of procedures adapted from a variety of sources.

—DOS 1.1 or 2.0.

—An IBM PC.

DISKETTE ONLY: Free, send a diskette and a self addressed returnable mailer to above address.

DESCRIPTION:

I. Why Chasm?

Why go to the trouble to write an assembler, when one already exists? The IBM Macro Assembler is a very powerful software tool available off the shelf. It supports features such as macros, definition of multiple segments, and linking to external procedures.

Unfortunately, all of this power doesn't fit into a 64K machine, and even when using the small subset version, 64K users are limited by memory to only very small programs. The macro assembler is also very complex, hard to understand, and costs a hundred bucks.

Even though the price of memory keeps dropping, I suspect that the majority of the IBM PC's out there have no more than 64K installed. Also, I suspect that most end-user assembly language programmers are like myself, and are not interested in writing huge, complicated programs in assembler. I want to write short subroutines to call from BASIC, small patches to existing assembler programs (such as DOS), and perhaps some games. For such uses, I think the combination of the Macro Assembler and a tub full of extra memory represents an incredible overkill. Chasm is, I hope, a more reasonable compromise between power and accessibility (both in cost and complexity).

II. What can Chasm do?

Chasm takes a text file, consisting of mnemonics, user-defined symbols, numbers, and pseudo-ops, and produces a file of corresponding machine language for the 8088 processor. Chasm allows you to define labels for branching, rather than requiring you to figure out offsets or addresses to jump to. It allows you to represent with a name any constants you want to use, making your programs easier to

understand. Most importantly, it translates mnemonics to their machine language equivalents freeing you from the task of hard translation.

III. What WON'T it do?

In the interest of simplicity, Chasm has a number of restrictions:

1. Statement syntax is not quite as free as in the macro assembler.
2. The number of pseudo-ops is severely cut down from the macro assembler.
3. Macros are not supported. (Note that the IBM assembler doesn't support macros in systems smaller than 96K).
4. Expressions (such as BUFFER — 2) are not supported, at least in version 1.0.
5. Multiple segment definitions are not allowed, at least in version 1.0. Chasm assumes that your entire program fits in one segment, that the cs, ds, and es registers all point to the same segment, and that the ss register points to a valid stack area.
6. External linking is not supported, at least in version 1.0.

Contributing users are entitled to all upgrades free of charge, and their names are added to my mailing list to be notified of significant improvements. I hope folks find CHASM useful.

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PROGRAM : PC-CHESS
LATEST REVISION : 1.1

SUGGESTED CONTRIBUTION: \$15

CONTACT : Mike Carpino
595 Kiersted Ave.
Kingston, NY 12401

AUTHOR : Mike Carpino

SYSTEM REQUIREMENTS: 64K IBM Personal Computer.
Graphics card/display.

OPTIONALLY SUPPORTED: —Game adapter with joysticks
—Printer

CONTRIBUTION PROVIDES: Program and documentation on diskette.

NOTE: Distribution may be on a single sided diskette with compressed files that require the user to perform installation setup,

OR,

Ready to execute files on a double sided diskette

Specify desired format when request for PC-CHESS is made

DISKETTE ONLY : Send appropriate diskette (single/double sided) with return postage & mailer or \$6 to cover diskette and handling.

DESCRIPTION: PC-CHESS is a graphics board game with the following features:

— **THREE MODES OF PLAY**

1. Player vs Computer
2. Player vs Player, i.e., two player game
3. Demonstration mode, i.e., computer makes all moves.

— Four difficulty levels of play selectable at any time during the game.

— Provision to save up to 26 games per diskette.

— Detection of all invalid moves.

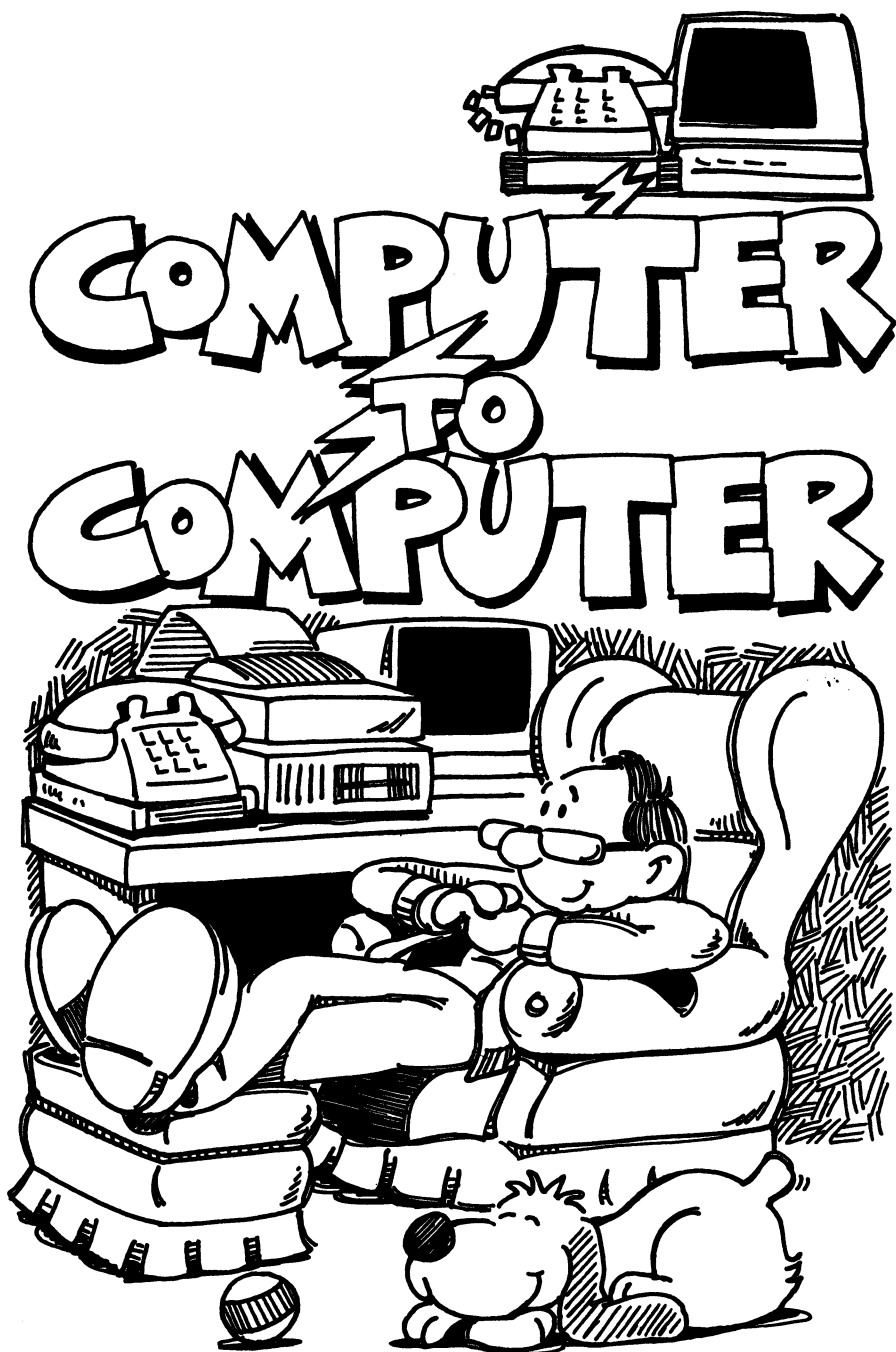
— En passant, castling, pawn promotion.

— Ability to set up any chess situation.

- Move history to optional printer.
- Selectable keyboard or joystick for player moves.
- Choice of black/ white pieces and option to exchange any time during game.
- Draw and stalemate recognition.

Note: PC-CHESS is distributed as compiled BASIC.

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COMPUTER-TO-COMPUTER

More and more people are realizing the advantages of being able to transmit information directly between computers. Such computer-to-computer transmissions involve two different transfer mechanisms, MODEMS and NETWORKING.

MODEMS are used to send and receive computer information over telephone lines. This type of communication is far from new, but is now growing so fast that it's becoming difficult just to keep up with the flood of telecommunications advertisements which show up in newspapers and magazines every day. You may have seen ads for some of the following:

- Major banks are offering "Home Banking", and invite you "to be one of the first to complete your routine banking with a personal computer ... bringing you more control over the funds you manage ... seven days a week"
- Stocks and bonds: A number of brokers offer the option of making your own transactions at home, directly from your computer to the exchange, without having to go through an intermediary.
- Information services: This is one of the biggest applications, and has been in use for some years. Several commercial systems offer subscribers access to all kinds of information (Dow Jones stock quotations, analysis programs, other investment services are some of the important applications where the user can get immediate information at home, by computer.)
- Shopping by computer: This is one of the newer applications, where the increase in the number of computer users is beginning to interest companies in offering this capability.

These represent some of the current commercial uses of MODEM communication. In addition there are many non-commercial "public access" electronic bulletin board systems where users can communicate and cooperate, sharing experiences, programs, or any kind of information of mutual interest. In this chapter we will primarily be discussing MODEMS and how to use them for remote communication through telephone lines.

NETWORKING, on the other hand, involves computer communication of quite a different nature. Here we are talking about independent computers or computer systems which are linked directly, through cables, and can share resources like printers, or can exchange information at very rapid rates, compared to the relatively slow transmission through telephone lines.

For readers who are interested in learning a little more about how both kinds of communication work, what is involved in each, and what some of the technical terms mean, see Appendix B: ASYNCHRONOUS COMMUNICATION. In Appendix B, Mark Guzzi, who has spent some months networking over 50 IBM PCs for the University of Santa Clara, discusses both these types of computer communication.

Telecommunication: What Equipment Do You Need?

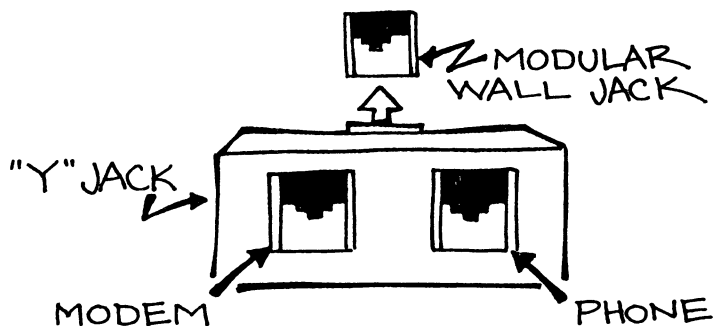
In addition to your PC or PCjr you need a telephone line (of course) and a device which will turn your computer signals into a form which can be transmitted over the line. This special device is called a MODEM, a word coined from the description of what is done at each end: a MODem is a MODulator-DEModulator. At the other end of the phone line there must be another modem and computer if conversations are to take place.

Modems come in many types and price ranges. The first modems developed were the “acoustic” units. With an acoustic modem, you use your telephone handset to place your call, then put the phone into a specially shaped receptacle on the modem, which makes a snug fit with both the mouthpiece and earpiece. If you already have one of these and are familiar with it, you can use it to communicate. But don’t buy one. The more modern “direct-connect” modems have all sorts of advantages, and are the only type you should consider buying.

The “direct-connect” in the description means that your modem plugs directly into a telephone wall jack. (So you do need a plug-in phone. This is not usually a problem, since most modern telephones are connected that way.)

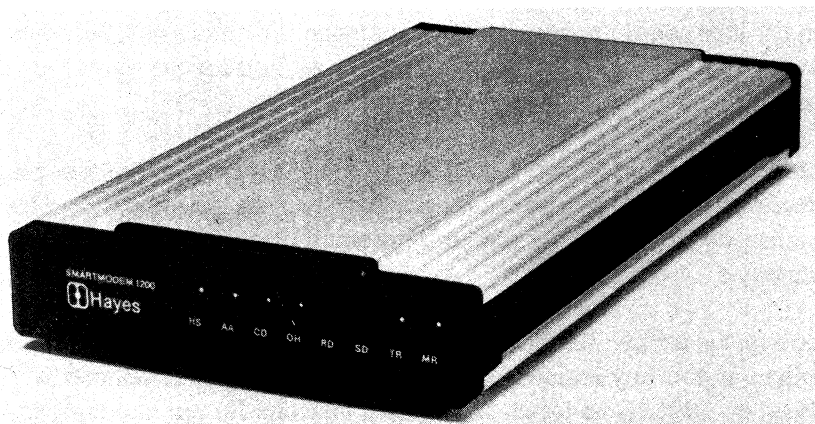
You won’t even have to unplug your telephone when you want to use your modem, if you buy an inexpensive “two-in-one” modular adapter which allows two lines (one for the telephone and one for the modem) to be

plugged, in parallel, into a single wall jack. (A “parallel” connection does not mean that you can conduct two separate conversations at once. If your computer is “talking” via modem, your phone is busy. But it does mean that you don’t have to connect and disconnect equipment.) You can obtain such adapters at phone or electronic stores.



Which Modem and What Features Do You Want?

In the last few years, the Hayes “Smartmodem” has become a sort of industry standard. It consists of a relatively small box which sits on the table near your computer. It has a built-in speaker. The presence of the speaker may not seem important, but it can be quite useful to distinguish, as soon as you place your call, between busy signals, wrong or changed or disconnected numbers, and simple no-answers, instead of just seeing a message on your computer screen that says “No carrier”.



Other manufacturers may offer many of the same features as Hayes, however, and more brands are coming on the market all the time. An example of recent developments in modem technology is the “internal” modem (as opposed to the separate box). An “internal modem” is installed as an expansion card inside your computer unit. For example, IBM supplies an internal modem as an option for the PCjr, and many other manufacturers are also beginning to introduce internal modems. Major advantage—compactness. Possible disadvantage—you can no longer easily move the modem to use it with some other computer.

If you’re in the market for a modem, next you need to decide what transmission speed (“baud rate”) you want. You will find a more detailed explanation of baud rates in Appendix B, but you can figure that transmitting this page, for example, would take about 1 minute through the phone lines at 300 baud, but only 15 seconds at 1200 baud.

On the other hand, the higher the speed, the higher the price of the modem, in general. A 300-baud modem will probably cost less than half as much as its 1200-baud equivalent.

What are the advantages of the higher speed data transmission? The main advantage which people mention is lower phone bills, if you make a lot of long-distance modem calls and transfer large quantities of data. Otherwise, you’ll probably be perfectly satisfied to start with the cheaper 300-baud modem.

You may also find that the savings with the higher speed modem aren’t quite as impressive as the rate comparison might suggest. Many of the subscription services, for example, charge higher fees for connect-time to users who are communicating at higher speed, while some services will not transmit faster than 300 baud. Also, you will probably spend a fair percentage of the telephone hookup time typing messages or responding to questions, where you can’t even keep up with 300-baud transmission.

A caveat is in order here. The foregoing statements are true currently, but the history of developments in this area suggests that as time goes on, the higher speeds will become standard. The real aficionados of telecommunications like higher speed modems.

So it depends on how much you're going to use your modem and for what purposes. You will find that computer magazines regularly publish comparative reviews and charts of features of different modems. Look at them. Talk to people in your user group. And don't spend too much money for speed if you're just starting out. After all, you can always trade up.

What Software Do You Need?

Some modems, like the Hayes 1200 baud "Smartmodem", include software as part of the package. If the modem you choose comes with software, the question is moot.

Otherwise, why not start with a program you can try out, at home and at leisure, FREE? In other words, try PC-TALK or one of the other user-supported software programs described in this book.

Now What—How Do You Get Started?

Unfortunately, when you start reading the instructions in preparation for your first modem call, like the rest of us, you will probably feel confused. Seventy pages of manual to read; a whole glossary of unfamiliar terms like full or half-duplex, pulse and touch-tone dialing, communications parameters—you'll wonder whether the whole process was worth while.

Telecommunication is really not as complicated as it seems at first glance. You don't have to know what all the terms mean in order to make a typical call to a bulletin board system. All you need is enough information so that you can make the telephone connection successfully. From then on, the system you're calling will give you all the instruction you need to continue the "conversation." The dialed system acts like a good host, with helpful information for the guest who calls. (See Appendix A for a transcript of a call to an IBM PC bulletin board.)

Nevertheless, the easiest way to get started would probably be to attend a meeting of a Telecommunication Special Interest Group of your computer club. Talking to someone who has been there before you is helpful in any new endeavor. If that's not practical, warm up with a modem call which is relatively simple and inexpensive. Look for an IBM bulletin board number (see the list on page 124 at the end of this section) that would not involve long-distance toll charges. If you can't find one, try one of the public access message system numbers that's a nearby call. A list is on page 129 at the end of this chapter.

How to Make That First Call

If you have a “base station” for a cordless phone near your computer, unplug the power cord when you use your modem to avoid interference. If the cordless phone is near the computer, turn its power off.

A good communications software program will automatically set most of the “parameters” which are needed for making a call to a bulletin board system. There are only a few pieces of information which you will need to supply.

1) What kind of phone service do you have, “touch-tone” or “pulse-dialing?” If you have a rotary dial on your handset, you’re probably using pulse dialing. If you have a push-button phone where you hear musical tones, it’s probably touch-tone. In any case, you can find out from the telephone company what kind of service you have.

2) What baud rate will you be using? This depends on your modem and also on what speed the system you are calling is prepared to handle. 300 baud would be a safe statement in any case (modems work perfectly well at lower speeds than their maximum).

3) What phone number are you calling?

4) What parity? Here’s the only part that sounds complicated. You don’t have to know what this means to make your call; you just have to put appropriate numbers in. (See Appendix B for an explanation of parity checking, if you’re interested.) Your communications program will have an entry which requests parameters. For most IBM PC bulletin boards enter N-8-1. For many other systems, E-7-1 is appropriate. (And for some calls, it doesn’t matter. The computer at the other end will adjust to whatever parameters you use.)

Using PC-TALK as an example, here’s what you do. When you call the program, you will see a command summary on the screen which instructs you to press Alt-D (Hold down the “Alt” key while you press “D”) for a “Dialing Directory.” Do it.

Also turn on your modem. (PC-Talk reminds you about that too.)

Then you'll see on your screen something that looks like the following:

```

=== DIALING DIRECTORY 1=== Modem dialing command = ATDT
                        Long distance service +# =
                        - # =

Name   Phone #   Comm Param   Echo   Mesg Strip Pace
1 -----
2 -----
3 -----
4 -----
5 -----
6 -----
7 -----
8 -----
9 -----
10 -----
11 -----
12 -----
13 -----
14 -----
15 -----
300-E-7-1   N       N       N       N
300-E-7-1   N       N       N       N
300-E-7-1   N       N       N       N
300-E-7-1   N       N       N       N
300-E-7-1   N       N       N       N
300-E-7-1   N       N       N       N
300-E-7-1   N       N       N       N
300-E-7-1   N       N       N       N
300-E-7-1   N       N       N       N
300-E-7-1   N       N       N       N
300-E-7-1   N       N       N       N
300-E-7-1   N       N       N       N
300-E-7-1   N       N       N       N
300-E-7-1   N       N       N       N
300-E-7-1   N       N       N       N

Dial entry #:      or... Enter: R to revise or add to directory
                                M for manual dialing
                                F / B to page through directory
                                X to exit to terminal

```

The “default conditions” that are set automatically call for touch-tone dialing, 300 baud and even parity. If you have pulse dialing you will need to change the “Modem dialing command” to ATDP. If you are calling an IBM PC bulletin board, change E-7-1 to N-8-1. Both of these are done by entering R to revise, after which the program will ask what changes you want to make. As it goes through its list of questions, you simply press the ENTER key for anything you don’t want to change.

As an example, suppose you want to call the DESOTO PC bulletin board. You could put its name and phone number in entry 1. Change the E-7-1 to N-8-1, and leave everything else as it was.

You’ll be shown the new directory and asked if it’s O.K. If you answer affirmatively, then you’ll be ready to dial. You type in a “1” and enter, and the dialing starts.

If the line isn't busy, the next thing that should happen is that the word "CONNECT" shows up on your screen. Press the carriage return and your "host" will start sending you messages telling you what to do next.

In Appendix A you will find an almost-complete transcript of a call made in January 1984 to an IBM PC bulletin board. Only the password supplied and the program requested and received by phone are not included. Read it and you'll have an idea of what to expect.

And remember—everyone feels just as confused the first time. So hook up your modem, using the adapter you bought for the wall jack. Get your software manual out where it's handy, and get started. If your call is going to be long distance, try the first contact when night or weekend rates are in effect.

You won't stay a novice for long. Try a call. Soon you'll like it.

IBM PC Bulletin Boards

Following is a partial listing of the IBM PC bulletin boards on-line in the United States and Canada. The list is updated as we receive information about new bulletin boards.

*Reprinted by permission of *PC World* from Volume 2, Issue 2, published at 555 De Haro Street, San Francisco, CA 94107.

201/783-6976

Source: ST7057

NY PC Users Group

SYSOP: Donald David

24 hrs, 300/1200

202/362-2707

Washington, D.C.

SYSOP: Mike Todd

24 hrs, novice special interest group, 300

203/289-6321

East Hartford, Connecticut

SYSOP: Scott Maentz

6 p.m. to 9 a.m. Mon to Sat,
all day Sun, download &
upload, messages, 300/1200

203/521-1991

Hartford, Connecticut

SYSOP: John O'Boyle

10 p.m. to 5:30 p.m. Mon to
Fri, evenings Sat & Sun,
download & upload,
messages, 300/1200
(Passwd = IBMPC)

203/966-8869

New Canaan, Connecticut

SYSOP: Whit Wynat

24 hrs, download & upload,
messages, 300

213/371-8825

Culver City, California

SYSOP: Marc Schoenberg

24 hrs, download & upload,
messages, 300/1200

213/390-3239

Source: TCG147

Santa Monica, California

SYSOP: Marc Schoenberg

24 hrs, download & upload,
10M disk, 300/1200

213/390-4182

Santa Monica, California

SYSOP: Marc Schoenberg

24 hrs, download & upload,
messages, 300/1200

213/649-1489

Culver City, California

SYSOP: George Peck

24 hrs, download & upload,
messages, 300/1200

214/223-0983

Dallas/Ft. Worth, Texas

SYSOP: Mark Collard

24 hrs, download & upload,
messages, 300/1200

215/439-5696

Allentown, Pennsylvania

SYSOP: Glenn Wesley

24 hrs, download & upload,
messages, 300/1200

219/255-8803

South Bend, Indiana

SYSOP: Rich Granbeck

24 hrs, download & upload

(Xmodem), messages,

300/1200

301/251-6293

Gaithersburg, Maryland

SYSOP: Larry Jordan

24 hrs, communications info

(Xmodem), messages,

300/1200

(Passwd = IBMPC)

301/371-6271

Frederick, Maryland

SYSOP: Gary Horwith

18 hrs, download & upload

(Xmodem), messages, 300

301/424-5817

Potomac, Maryland

SYSOP: Doug Thompson

24 hrs, upload newspaper

articles, 300/1200

301/460-0538

Bethesda, Maryland

SYSOP: Ramona Landberg

24 hrs, download & upload,

300/1200

(Passwd = IBMPC)

301/948-9143

Gaithersburg, Maryland

SYSOP: Jim Frye

24 hrs, local buying info,

download & upload

(Xmodem), 300

301/949-8848

Rockville, Maryland

SYSOP: Rich Schinnell

24 hrs, download & upload,

300/1200

(Passwd = IBMPC)

303/690-4566

Denver, Colorado

SYSOP: Chris Carson

24 hrs, download & upload

303/973-9338

Denver, Colorado

SYSOP: Oscar Barlow

7 a.m. to 11 p.m., download

& upload, messages,

300/1200

312/267-2066

Chicago, Illinois

SYSOP: Dave Jeschke

24 hrs, messages, 300/1200

(Passwd = IBMPC)

312/376-7598

Chicago, Illinois

SYSOP: Pete Coniceak

24 hrs, download & upload,

messages, 300

312/396-1022

Chicago, Illinois

SYSOP: Tom Speaker

7 p.m. to 9 a.m. Mon to Sat, 7

p.m. Sat to 9 a.m. Mon,

download & upload,

messages, 300/1200

312/882-4227

Chicago, Illinois

SYSOP: Gene Plantz

24 hrs, download & upload,

messages, 300/1200

312/944-4847

Chicago, Illinois

SYSOP: Bob Dew

24 hrs, download & upload,
messages, 300/1200

319/332-7648

Quad Cities PC Users Group

Bettendorf, Iowa

SYSOP: Jeff Machusak

24 hrs, download & upload,
messages, 300/1200

319/363-3314

Cedar Rapids, Iowa

SYSOP: Ben Blackstock

24 hrs, download & upload,
messages, 300/1200

404/252-9438

Atlanta, Georgia

SYSOP: Rod Roark

24 hrs, download & upload,
messages

404/634-5731

Atlanta, Georgia

SYSOP: Randy Bullard

24 hrs, download & upload,
messages, 300/1200

404/926-8411

Atlanta, Georgia

SYSOP: Ken Shackelford

10 p.m. Mon to 3 p.m. Fri, 10
p.m. Fri to noon Sat, down-
load & upload, messages,
300

415/481-0252

San Lorenzo, California

SYSOP: Terry Taylor

24 hrs, download & upload
(Xmodem), messages, 300

415/845-9462

Berkeley, California

SYSOP: John Carmichael

24 hrs, 300
(Passwd = GUEST)

415/861-5733

San Francisco, California

SYSOP: Harry Logan

24 hrs, download & upload,
messages, 300/1200

415/937-0156

Walnut Creek, California

SYSOP: Wes Meier

24 hrs, messages (Xmodem),
300/1200

416/499-7023

Toronto, Ontario

SYSOP: Doug Peel

24 hrs, download & upload,
messages, 300/1200
(Passwd = IBMPC)

513/874-9609

Cincinnati, Ohio

SYSOP: John Harrington

24 hrs, download & upload,
messages, 300/1200

516/944-6712

Source: ST6368

Long Island, New York

24 hrs, download & upload,
messages, 300

602/742-5187

Tucson, Arizona

SYSOP: Bill Crider

6 p.m. to 10 a.m. Mon to Sat,

2 p.m. to midnight Sat, all

day Sun, download & up-

load, messages, 300/1200

608/262-4939

Madison, Wisconsin

PC Users Group

SYSOP: Read Gilgen

5 p.m. to 8 a.m. weekdays,

5 p.m. Fri to 8 a.m. Mon,

download & upload, mes-

sages, 300

617/353-9312

Boston Computer Society

SYSOP: Brian Hess

5:30 p.m. to 9 a.m. Mon to

Fri, all day Sat & Sun,

download & upload,

messages, 300

701/293-5973

Fargo, North Dakota

SYSOP: Loren Jones

24 hrs, download & upload,

messages, 300/1200

703/425-7229

Springfield, Virginia

SYSOP: Bob Blackwell

24 hrs, download & upload,

300/1200

(Passwd = IBMPC)

703/522-4513

Vienna, Virginia

SYSOP: Paul McKnight

24 hrs, download & upload,

300

(Passwd = IBMPC)

703/560-7803

Vienna, Virginia

ABBS with IBM PC

Conference.

24 hrs, download & upload,

messages, 300

703/560-0979

Annandale, Virginia

SYSOP: Wes Merchant

Download, messages,

bulletins, 300

703/680-5220

Dale City, Virginia

Dale City Info Exchange

SYSOP: Tim Mullins

24 hrs, news, new product

reviews—all PCs, 300

703/978-9592

Fairfax, Virginia

SYSOP: Don Withrow

24 hrs, download & upload,

tips, 300/1200

(Passwd = IBMPC)

704/365-4311

Charlotte, North Carolina

SYSOP: Charles McCurry

24 hrs, download & upload,

messages

714/631-4021

Orange County, California

24 hrs, download & upload,

messages, 300/1200

714/637-2094

Orange County, California

24 hrs, download & upload,

messages, 300/1200

716/836-6964

Buffalo, New York

SYSOP: Bob Taylor

9 p.m. to 9 a.m. Tu, W, Th,
F; 6 p.m. Sat to 9 a.m. Tu;
download & upload,
messages, 300

803/548-0900

Fort Mill, South Carolina

SYSOP: Bill Taylor

24 hrs, download & up-
load, 300/1200

806/353-7484

Amarillo, Texas

SYSOP: Dorn Stickle

6 p.m. to 8 a.m. Mon to Sat,
all day Sun, download &
upload (Xmodem),
messages, 300

913/841-6424

Lawrence, Kansas

SYSOP: Bruce Anderson

24 hrs, download & upload
(Xmodem), messages, 300

914/221-0774

Hopewell Junction, New York

SYSOP: John Giberson

24 hrs, download & upload,
messages, sports/ham radio
news, 300/1200

914/297-0665

Poughkeepsie, NY

SYSOP: Ray Hyder

24 hrs, download & upload,
messages, games, 300/1200

918/664-8737

Tulsa, Oklahoma

SYSOP: Lynn Long

24 hrs, "C" special interest
group, download & upload,
300/1200

919/847-4625

Raleigh, North Carolina

SYSOP: Randy Ray

Download & upload,
messages, 300/1200
(Passwd = IBMPC)

800/848-8199

CompuServe

24 hrs, download & upload,
messages
Subscribers only

```

*****
*      PUBLIC ACCESS MESSAGE (and file transfer) SYSTEMS      *
*      (P.A.M.S.) last updated 02/23/84                        *
*                                                                *
*      Compliments of Peoples' Message System, Santee CA.      *
*      ( 6 1 9 ) 5 6 1 - 7 2 7 7                               *
*      Compiled and maintained by Bill Blue                     *
*      (with a lot of help from his friends)                   *
*                                                                *
*      Current filesize is 43,200 bytes.                        *
*                                                                *
*****

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-> Listed systems hours of operation:

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* denotes mostly 24-hour 7-day operation
+ denotes 8-12 hour DAYTIME operation ONLY
- denotes 8-12 hour NIGHTTIME operation ONLY

```

-> New listings or changes:

```

! denotes a new system, a new number to an existing
  system or new list entry

```

-> All systems listed support Bell 103a 300 bits per second

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* also supports VADIC (3400 series) 1200 Bps.
& also supports Bell 212A 1200 Bps.
% also supports BAUDOT operation (usually 45.5 Bps.)

```

-> System categories:

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#1 denotes original or "home" system of that type
dd. denotes game oriented messages or game playing
dl. download/upload capabilities, a program exchange system

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ml. mail/information exchange only
rb. denotes call, let ring once and call back
rl. religious orientation
we. weekends only

-> Regular updates of this list may be found on:

CompuServe MAUG XA4, The Source PUBLIC 112, and most
participating independent PMS systems.

-> Please help keep this list accurate. Send VERIFIED
additions, deletions or corrections to me at:

System or Net	Send to:
Compuserve	70315,1305
P.dBMS #1	Bill Blue
PMS - Santee	sysop
Telemail	wblue
The Source	TCB117
uucp	...sdchema!bang!bblue

IMPORTANT NOTE! List updates must be sent in the same general
format as shown here. ALL relevant info must be included -
system software type, system name, city, state, area code,
phone number, hours of operation and category. If only phone
numbers have changed, always reference the old phone number.
Submissions without the necessary AND COMPLETE information
will NOT be used.

-> List now begins in alpha-numeric order by type:

ABBS Akron Digital Group, Akron, OH.....(216) 745 7855*

ABBS Analog, Port Coquitlam, BC, CN.....(604) 941 0041*
 ABBS Apple Crate I, Seattle, WA.....!(206) 872 6789
 ABBS Byte Shop, Ft. Lauderdale, FL.....(305) 486 2983-
 ABBS Byte Shop, Miami, FL.....(305) 261 3639-
 ABBS CODE, Glen Ellyn, IL.....(312) 882 2926*
 ABBS Colortron Computer, Racine, WI.....(414) 637 9990*
 ABBS Compumart, Ottawa, Ontario, CN.....(613) 725 2243
 ABBS Computer Room, Kalamazoo, MI.....(616) 382 0101
 ABBS Gamemaster, Chicago, IL.....(312) 475 4884*
 ABBS Image Base, Long Beach, CA.....!(213) 597 0064*
 ABBS Ketchikan, AK.....(907) 225 6789
 ABBS LINX, Lincoln, NE.....(402) 476 1177*dl.
 ABBS New York, NY.....(516) 473 1005*
 ABBS New York, NY.....(212) 877 7703*
 ABBS Nessy Game System, Itasca, IL.....(312) 773 3308*
 ABBS Nessy Flynn's BBS, Crystal Lake, IL.....(815) 455 2406
 ABBS Omaha, NE.....(402) 339 7809
 ABBS Pacific Palisades, Los Angeles, CA.....(213) 459 6400
 ABBS Peoria, IL.....(309) 692 6502
 ABBS Phoenix, AZ.....(602) 898 0891
 ABBS Pirates Cove, Long Island, NY.....(516) 698 4008
 ABBS Rogers Park, Chicago, IL.....(312) 973 2227
 ABBS Software Sorcery, Herndon, VA.....&(703) 471 0610*
 ABBS South of Market, San Francisco, CA.....(415) 469 8111
 ABBS The Pulse, Dallas, TX.....(214) 631 7747*
 ABBS Teledunjon III, Dallas, TX.....(214) 960 7654*dd.
 ABBS Turnersville, NJ.....(609) 228 1149
 ABBS Vancouver, BC, CN.....(604) 437 7001
 ABBS Vermont, Essex Junction, VT.....(802) 879 4981*
 ABBS West Palm Beach, FL.....(305) 848 3802

 ACS Arlington Heights, IL.....#1(312) 392 2403
 ACS Chicago, IL.....(312) 445 1130

A-C-C-E-S-S Annapolis, MD.....(301) 267 7666*
 A-C-C-E-S-S Phoenix, AZ.....&(602) 957 4428*
 A-C-C-E-S-S Call-A-Lawyer, Phoenix, AZ.....(602) 275 6644
 A-C-C-E-S-S Scottsdale, AZ.....(602) 998 9411*

 AE PRO Jolly Roger, Houston, TX.....!(713) 468 0174*

 AMIS APEX, Houston, TX.....!(713) 471 7117*
 AMIS A.F.A.C. BBS, Riverside, CA.....!(714) 781 8774*
 AMIS A.R.C.A.D.E. Sterling Heights, MI.....(313) 978 8087*
 AMIS Clarendon Hills, IL.....(312) 789 3610*
 AMIS GRAFEX Cupertino, CA.....(408) 253 5216
 AMIS B.R.A.S.S. Grand Rapids, MI.....(616) 241 1971*
 AMIS Hart City BBS, Elkhart, IN.....!(219) 262 3980*
 AMIS IBBBS San Jose, CA.....(408) 298 6930
 AMIS Jolly Roger BBS, Park Ridge, NJ.....!(201) 391 5519
 AMIS M.A.C.E. Detroit, MI....., #1(313) 589 0996*
 AMIS Manhattan Message Manager, New York, NY!(212) 879 5182
 AMIS T.A.B.B.S. Sunnyvale, CA.....(408) 942 6975

 ARMUDIC Computer Age, Baltimore, MD.....(301) 587 2132

 BBS IBM Hostcomm Atlanta, GA.....(404) 252 4146
 BBS IBM Hostcomm Fairfax, VA.<pw=IBMPC>.....(703) 978 9592*
 BBS IBM Hostcomm Fairfax, VA.....(703) 385 8384*
 BBS IBM Hostcomm Potomac, MD.....!(301) 424 5817*
 BBS IBM Hostcomm Raleigh, NC.<pw=IBMPC>.....!(919) 847 4625*
 BBS IBM Hostcomm Rockville, MD.....(301) 949 8848*
 BBS IBM Hostcomm Springfield, VA.....(703) 425 7229*
 BBS IBM Hostcomm Springfield, VA.....!(703) 425 6308-
 BBS IBM Hostcomm Houston, TX.....(713) 890 0310*
 BBS IBM Hostcomm Toronto, Ont., CN.<pw=IBMPC>(416) 499 7023*
 BBS IBM Hostcomm Vienna, VA.<pw=IBMPC>.....!(703) 522 4513*
 BBS IBM PC Annandale, VA.....(703) 560 0979*

BBS IBM PC Atlanta, GA.....(404) 928 3005
 BBS IBM PC Atlanta, GA.....(404) 252 9438*
 BBS IBM PC Berkeley, CA.<pw=Guest>.....!(415) 845 9462*
 BBS IBM PC Comp. Res. Ctr., Santa Monica, CA!(213) 829 1487
 BBS IBM PC Comp. Res. Ctr., Santa Monica, CA!(213) 828 1331-
 BBS IBM PC Culver City, CA.....!(213) 371 8825*
 BBS IBM PC Culver City, CA.....&!(213) 410 0714*
 BBS IBM PC East Hartford, CT.....!(203) 289 6321-
 BBS IBM PC Niles, IL.....(312) 991 8887*
 BBS IBM PC Poughkeepsie, NY.....!(914) 297 0665*dd.
 BBS IBM PC San Fernando Valley, CA.....!(213) 368 5801*
 BBS IBM PC Santa Monica, CA.....!(213) 390 4182*
 BBS IBM PC Seattle, WA.....!(206) 367 7949-dd.
 BBS IBM PC Seattle, WA.....!(206) 522 1340*dd.
 BBS IBM PC Seattle, WA.....!(206) 883 4403-dd.
 BBS IBM PC SIG, San Diego, CA.....(619) 268 0437*
 BBS IBM PC Tulsa Computer Soc., Tulsa, OK...!(918) 446 5219*
 BBS IBM PC Tulsa Info. Exchange, Tulsa, OK...!(918) 438 3363*
 BBS IBM PC Vienna, VA.....(703) 560 7803*
 BBS IBM PC Woodbridge, VA.....!(703) 590 9613*

 BULLET-80 Boston, MA.....&(617) 266 7789*
 BULLET-80 Chesterland, OH.....(216) 729 2769
 BULLET-80 Danbury, CT.....#1(203) 744 4644
 BULLET-80 El Paso, TX.....(915) 565 9903*
 BULLET-80 Fayetteville, GA.....(404) 461 9686
 BULLET-80 Hattiesburg, MS.....(601) 264 2361*
 BULLET-80 Orange County, Anaheim, CA.....(714) 952 2110
 BULLET-80 Seymour, CT.....(203) 888 7952
 BULLET-80 Springfield, IL.....(217) 529 1113
 BULLET-80 Waterford, MI.....(313) 628 4350*
 BULLET-80 Pirate Place, Newport Beach, CA....(714) 644 7942

 CBBS AMRAD, Washington, DC.....(703) 734 1387*
 CBBS Aurora Computer Peripherals, Aurora, CO.(312) 897 9037*
 CBBS Boston, MA.....(617) 646 3610*

CBBS Cedar Rapids, IA.....(319) 364 0811*
 CBBS Chicago, IL.....#1(312) 545 8086*
 CBBS Heath Store, Honolulu, HI.....!*(808) 487 8755
 CBBS Lambda, Berkeley, CA.....(415) 658 2919
 CBBS Lawrence General Hospital, Boston, MA...(617) 683 2119
 CBBS LICA LIMBS, Long Island, NY.....(516) 561 6590*
 CBBS London, England..(European standard)..(044) 1 399 2136
 CBBS Long Island, NY.....(516) 334 3134*
 CBBS MAUDE Milwaukee, WI.....*(414) 241 8364*

Also: *(312) 876 0974*

CBBS MicroStar, Worcester, MA.....(617) 752 7284
 CBBS NW, Portland, OR.....(503) 646 5510*
 CBBS PACC, Pittsburgh, PA.....(412) 822 7176*
 CBBS Prince George, B.C., CN.....(604) 562 9515
 CBBS Proxima, Berkeley, CA.....(415) 357 1130
 CBBS RAMS, Rochester, NY.....(716) 244 9531
 CBBS Rosemont, MN.....(612) 423 5016
 CBBS SabahOnline, San Diego, CA.....*!(619) 692 1961*
 CBBS St. Petersburg, FL.....(813) 866 9945*
 CBBS Strictly Software, Honolulu, HI.....(808) 944 0562
 CBBS T88, Tucson, AZ.....(602) 574 0327*

COMNET-80 Akron, OH.....*(216) 645 0827*
 COMNET-80 Las Vegas, NV.....*(702) 870 9986
 COMNET-80 Mt. Clemens, MI.....*(313) 465 9531
 COMNET-80 North Wales, PA.....(215) 855 3809
 COMNET-80 Riverside, CA.....*(714) 359 3189
 COMNET-80 Riverside, CA.....*(714) 877 2253
 COMNET-80 Wichita Falls, TX.....(817) 767 5847

CONNECTION-80 Centereach, NY.....(516) 588 5836
 CONNECTION-80 Fremont, CA.....(415) 651 4147*
 CONNECTION-80 JACS, Jacksonville, FL.....(904) 353 5227*
 CONNECTION-80 Lansing, MI.....(517) 339 3367

CONNECTION-80 Laval BELE, Laval, Quebec, CN..(514) 622 1274*
 CONNECTION-80 Manhattan, NY.....(212) 991 1664
 CONNECTION-80 Orlando, FL.....(305) 644 8327*
 CONNECTION-80 Peterborough, NH.....(603) 924 7920
 CONNECTION-80 Waco, TX.....!(817) 754 1568
 CONNECTION-80 Woodhaven, NY.....(212) 441 3755*

CONFERENCE-TREE Santa Cruz, CA.....(408) 475 7101
 CONFERENCE-TREE Computerland, Honolulu, HI...(808) 487 2001*
 CONFERENCE-TREE Cookville, TN.....(615) 528 5039*
 CONFERENCE-TREE Flagship, Rockaway, NJ.....(201) 627 5151*
 CONFERENCE-TREE Hayward, CA.....(415) 538 3580
 CONFERENCE-TREE Kelp Bed, Los Angeles, CA....(213) 372 4800
 CONFERENCE-TREE Minneapolis, MN.....(612) 854 9691
 CONFERENCE-TREE Palo Alto, CA.....!(415) 948 1474
 CONFERENCE TREE Phoenix, AZ.....(602) 931 1829*
 CONFERENCE-TREE San Francisco, CA.....#1(415) 861 6489
 CONFERENCE-TREE Santa Monica, CA.....(213) 394 1505
 CONFERENCE-TREE Sausalito, CA.....(415) 332 8115
 CONFERENCE-TREE Tacoma, WA.....(206) 759 0615*

DIAL-YOUR-MATCH #1.....(213) 842 3322
 DIAL-YOUR-MATCH #4.....(213) 783 2305
 DIAL-YOUR-MATCH #8, San Francisco, CA.....(415) 467 2588
 DIAL-YOUR-MATCH #11, Carlsbad, CA.....(619) 434 4600*
 DIAL-YOUR-MATCH #12, Houston, TX.....(713) 556 1531*
 DIAL-YOUR-MATCH #14.....(201) 272 3686
 DIAL-YOUR-MATCH #16.....(206) 256 6624
 DIAL-YOUR-MATCH #17.....(415) 991 4911
 DIAL-YOUR-MATCH #18.....(617) 334 6369
 DIAL-YOUR-MATCH #20.....(919) 362 0676
 DIAL-YOUR-MATCH #21, Freehold, NJ.....(201) 462 0435
 DIAL-YOUR-MATCH #22.....(213) 990 6830
 DIAL-YOUR-MATCH #37, Flint, MI.....(313) 736 1398

DIAL-YOUR-MATCH #38, Austin, TX.....(512) 451 8747
 DIAL-YOUR-MATCH #39, Chicago, IL.....(312) 243 1046
 DIAL-YOUR-MATCH #40, Dallas, TX.....!(214) 987 3547
 DIAL-YOUR-MATCH #77, Houston, TX.....!(713) 981 4062

FORUM-80 Augusta, GA.....(803) 279 5392
 FORUM-80 Cleveland, OH.....&!(216) 943 2388
 FORUM-80 El Paso, TX.....(915) 755 1000*
 FORUM-80 Ft. Lauderdale, FL.....(305) 772 4444*
 FORUM-80 Hull, England.....(011) 44 482 859169
 FORUM-80 Kansas City, MO.....&(816) 931 9316
 FORUM-80 Las Vegas, NV.....(702) 362 3609*
 FORUM-80 Linden, NJ.....(201) 486 2956*
 FORUM-80 Medford, OR.....(503) 535 6883*
 FORUM-80 Medical, Memphis, TN.....(901) 276 8196*
 FORUM-80 Monmouth, Brielle, NJ.....(201) 974 1196*
 FORUM-80 Montgomery, AL.....(205) 272 5069
 FORUM-80 Prince William County, VA.....(703) 670 5881*
 FORUM-80 San Mateo, CA.....&(415) 348 2139
 FORUM-80 Seattle, WA.....(206) 723 3282
 FORUM-80 Westford, MA.....(617) 692 3973
 FORUM-80 Wichita, KS.....&(316) 682 2113*

GABBS Armadillo Media, Houston, TX.....(713) 444 7098*
 GABBS Food for Thought, Omaha, NE.....(402) 551 4618*
 GABBS San Diego, CA.....!(619) 578 3743*
 GABBS The Great Apple, Houston, TX.....#1(713) 455 9502*
 GABBS Vox Populi, Houston, TX.....(713) 772 6096*

GREENE MACHINE Golden State BBS, Novato, CA..(415) 897 2783
 GREENE MACHINE Riverside, CA..(714) 354 8004
 GREENE MACHINE Chicago, IL.....(312) 622 4442
 GREENE MACHINE Sunnymead, CA.....(714) 924 2229*
 GREENE MACHINE Yuma, AZ.....&(602) 726 7533*

HBBS Heath/Zenith, Grand Rapids, MI.....&!(616) 538 1841
 HBBS MOG-UR, Granada Hills, CA.....&(213) 366 1238*

 MCMS C.A.M.S. Chicago, IL.....#1&(312) 927 1828*
 MCMS Goliath, Minneapolis, MN.....(612) 753 3882
 MCMS J.A.M.S. Lockport, IL.....(815) 838 1828*
 MCMS P.C.M.S. Wheaton, IL.....&(312) 462 7568*
 MCMS WACO Hot Line, Schaumburg, IL..<pvt>....(312) 351 4374*
 MCMS Word Exchange, Springfield, IL.....(217) 753 4389*

 NET-WORKS ABC, Kansas City, MO.....(816) 483 2526
 NET-WORKS Adventure's Inn, Lake Forest, IL... (312) 295 7284*
 NET-WORKS ABS, Augusta, GA.....(484) 733 3461*
 NET-WORKS Alamo City, TX.....!(512) 442 1116
 NET-WORKS Apple Astronomy, Houston, TX.....!(713) 526 5671*
 NET-WORKS Apple Gumbo, Shreveport, LA.....(318) 861 1812*
 NET-WORKS Apple Juice, Drien, IL.....(312) 685 9573
 NET-WORKS Apple Net, Chicago, IL.....(312) 963 5384
 NET-WORKS Apple-Technical, Chicago, IL.....(312) 935 3891
 NET-WORKS Armadillo, Grand Forks, ND.....(781) 746 4959
 NET-WORKS Assembly Line, Louisville, KY.....(502) 459 5531-
 NET-WORKS Baud-ville, Louisville, KY.....(502) 423 8695-
 NET-WORKS Big Apple, Miami, FL.....(305) 948 8888
 NET-WORKS Briar-Net, Houston, TX.....(713) 782 5786*
 NET-WORKS Brooklyn, NY.....(212) 418 8949
 NET-WORKS C.A.M.S., Decatur, IL.....(217) 875 7114-
 NET-WORKS Charleston, WV.....(384) 345 6582*
 NET-WORKS Chipeunk, Hinsdale, IL.....(312) 323 3741*
 NET-WORKS Coin Games, Los Angeles, CA.....(213) 336 5535
 NET-WORKS Computer Market, Honolulu, HI.....(808) 524 6668-
 NET-WORKS Computer World, Los Angeles, CA....(213) 859 8894*
 NET-WORKS Crystal Dimension, Houston, TX....!(713) 497 2175
 NET-WORKS Daily Net, Houston, TX.....!(713) 493 6118*
 NET-WORKS DOC Board, Houston, TX.....!(713) 471 4131*

NET-WORKS Eclectic Computer Sys., Dallas, TX.(214)	239	5842
NET-WORKS Fantasy Voyage, Houston, TX.....!(714)	333	1845-
NET-WORKS Forth Dimension, St. Louis, MO.....(314)	532	4652
NET-WORKS Great White North, St. Louis, MO..!(314)	849	3171
NET-WORKS Hawaii Connection, Honolulu, HI...!(808)	456	8689*
NET-WORKS Health BBS, Ames, IA.....!(515)	233	5254*
NET-WORKS Honolulu, HI.....(808)	524	6652
NET-WORKS Livingston, NJ.....(201)	994	9620*
NET-WORKS MAGIE, Galesburg, IL.....(309)	343	3799*
	Also: (309)	563 9543*
NET-WORKS Magnetic Fantasies, Los Angeles, CA(213)	388	5198
NET-WORKS Memory Lane, Honolulu, HI.....!(808)	526	0719*
NET-WORKS MicroBBS, Chelmsford, MA.....(617)	889	4330
NET-WORKS Mines of Moria, Houston, TX.....(713)	871	8577*
NET-WORKS N A B S, Alton, IL.....(618)	466	9497
NET-WORKS Pearl City Network, Honolulu, HI..!(808)	456	3745*
NET-WORKS Pirate's Harbor, Boston, MA.....(617)	720	3600
NET-WORKS Pirate's Lodge, New City, NY.....(914)	634	1268
NET-WORKS Portsmouth, NH.....(603)	436	3461
NET-WORKS RJNET, Warnville, IL.....(312)	393	4755
NET-WORKS Softworx, West Los Angeles, CA.....(213)	473	2754
NET-WORKS Space Voyage, Houston, TX.....!(713)	568	6595-
NET-WORKS The Dark Realm, Houston, TX.....(713)	333	2309*
NET-WORKS The Digital Dimension, Houston, TX!(713)	497	4633-
NET-WORKS The Dragon's Lair NW, San Jose, CA.(408)	996	7464
NET-WORKS The Inner Realm, Houston, TX.....!(713)	583	2002*
NET-WORKS The Shadow World, Houston, TX.....(713)	777	8608*
NET-WORKS The Silver Tongue, St. Joseph, MO..(816)	232	3153
NET-WORKS The System, Houston, TX.....(713)	785	7996-
NET-WORKS The Weekender, Houston, TX.....(713)	492	8700*
NET-WORKS Toronto, Ontario, CN.....(416)	445	6696*
NET-WORKS Warlock's Castle St., Louis, MO....(618)	345	6638
NET-WORKS Zachary*Net, Houston, TX.....(713)	933	7353*

ONLINE Dickinsons Movie Guide, Mission, KS... (913) 432 5544*
 ONLINE Omega, Chicago, IL..... (312) 648 4867*

 P.dBMS #1 - Lakeside, CA.....*(619) 561 7271*ml.
 P.dBMS #2 - Denver, CO.....*(303) 755 5388*ml.

 PET BBS Commodore, Largo, FL..... (813) 391 5219+
 PET BBS Commodore, Chicago, IL..... (312) 397 0871*
 PET BBS S.E.W.P.U.G., Racine, WI..... (414) 554 9528*
 PET BBS SE Wyoming PUB, Cheyenne, WY..... (307) 637 6045*
 PET BBS PSI WordPro, Ontario, CN.....#1(416) 624 5431*
 PET BBS TPUG, Toronto, Ontario, CN..... (416) 223 2625*
 PMS - **IF**, Anaheim, CA..... (714) 772 8868*
 PMS - Anchorage, AK..... (907) 344 8558
 PMS - Century 23, Las Vegas, NV..... (702) 878 9106*
 PMS - Chicago, IL..... (312) 373 8057*
 PMS - Computer Merchant, San Diego, CA..... (619) 582 9557*ml.
 PMS - Chicago Public Library, Chicago, IL.... (312) 235 3200-
 PMS - Datel Systems Inc., San Diego, CA..... (619) 271 8613*
 PMS - Downers Grove/BRT, Downers Grove, IL...! (312) 960 2308
 PMS - Ed Tech, San Diego, CA..... (619) 265 3428
 PMS - Ellicott City, MD..... (301) 465 3176-
 PMS - Escondido, CA..... (619) 746 0667-
 PMS - Floppy House, San Diego, CA..... (619) 579 7036*
 PMS - Ft. Smith Comp. Club, Ft. Smith, AK.... (501) 646 0197-
 PMS - Indianapolis, IN..... (317) 787 5486*
 PMS - Kid's Message System, San Diego, CA.... (619) 578 2646*
 PMS - Logic Inc., Toronto, Ontario, CN.....! (416) 445 5192*
 PMS - Los Angeles, CA..... (213) 331 3574*
 PMS - Massillon, OH..... (216) 832 8392*
 PMS - McGraw-Hill Books, New York, NY..... (212) 997 2488
 PMS - Minneapolis, MN..... (612) 929 6699*
 PMS - I.A.C., Lake Forest, IL..... (312) 295 6926*
 PMS - Pikesville, MD..... (301) 653 3413
 PMS - Pleasanton, CA..... (415) 462 7419*

PMS - Portland, OR.....	(503)	245	2536*
PMS - Portola Valley, CA.....	(415)	851	3453*
PMS - RAUG, Akron, OH.....	(216)	867	7463*
PMS - Rutgers Univ. Microlab, Piscataway, NJ.....	(201)	932	3887
PMS - San Marcos, CA.....	(619)	727	7500*
PMS - Santee, CA.....	#1(619)	561	7277*ml.
PMS - Software Unltd, Kenmore, WA.....	(206)	486	2368*
PMS - SEB Computer, Jacksonville, FL.....	!(904)	743	7050-
PMS - Teen-Line, Del Mar, CA.....	(619)	755	5006*
PMS - Twin Cities, Minneapolis, MN.....	(612)	929	8966
PSBBS Washington, DC.....	(202)	337	4694*
RATS Wenonah, NJ.....	(609)	468	5293
RATS Wenonah #2, NJ.....	(609)	853	8268
RBBS IBM PC Allentown, PA.....	!(215)	439	5696*
RBBS IBM PC Amarillo, TX.....	!(806)	353	7484-
RBBS IBM PC Annapolis, MD.....	!(301)	267	4930-
RBBS IBM PC Atlanta, GA.....	!(404)	926	8411-
RBBS IBM PC Bethesda, MD.....	!(301)	460	0538*
RBBS IBM PC Buffalo, NY.....	!(716)	836	6964-
RBBS IBM PC Charlotte, NC.<pw=Guest>.....	(704)	365	4311*
RBBS IBM PC Chicago, IL.....	(312)	376	7598*
RBBS IBM PC Chicago, IL.....	!(312)	396	1022-
RBBS IBM PC Computer Society, Boston, MA.....	(617)	353	9312-
RBBS IBM PCmodem Chicago, IL.....	&(312)	882	4227*dl.
RBBS IBM PC Cincinnati, OH.....	!(513)	874	9609*
RBBS IBM PC Dallas, TX.....	!(214)	223	0983*
RBBS IBM PC Enid, OK.....	!(405)	237	0558*
RBBS IBM PC Fargo, ND.....	!(701)	293	5973*
RBBS IBM PC Fort Collins, CO.....	!(303)	223	8342-
RBBS IBM PC Fort Mill, SC.....	!(803)	548	0900*
RBBS IBM PC Frederick, MD.....	!(301)	371	6271*

RBBS IBM PC Gaithersburg, MD.....	(301)	251	6293*
RBBS IBM PC Gaithersburg, MD.....	!(301)	948	9143*
RBBS IBM PC Great Falls, Va.....	&(703)	759	5049*
RBBS IBM PC Hopewell Junction, NY.....	!(914)	221	0774*
RBBS IBM PC Lawrence, KS.....	!(913)	841	6424*
RBBS IBM PC Long Island, NY.....	!(516)	944	6712*
RBBS IBM PC Los Angeles, CA.....	!(213)	739	6362-
RBBS IBM PC Madison, WI.....	(608)	262	4939*
RBBS IBM PC Pittsburgh, PA.....	!(412)	963	0248*
RBBS IBM PC Place, Houston, TX.....	!(713)	488	7179*
RBBS IBM PC New Caanan, CT.....	!(203)	966	8869*
RBBS IBM PC Orange County, CA.....	!(714)	637	4021*
RBBS IBM PC Orange County, CA.....	!(714)	637	2094*
RBBS IBM PC Rochester, MN.....	!(507)	281	0979*
RBBS IBM PC Safehouse, Minneapolis, MN.....	(612)	724	7066*dl.
RBBS IBM PC San Francisco, CA.....	!(415)	861	5733*
RBBS IBM PC San Lorenzo, CA.....	!(415)	481	0252*
RBBS IBM PC South Bend, IN.....	!(219)	255	8803*
RBBS IBM PC Statesville, NC.....	!(704)	873	5140*rb.
RBBS IBM PC Temecula, CA.....	!(714)	676	3378*
RBBS IBM PC Tucson, AZ.....	!(602)	742	5187-
RBBS IBM PC Tulsa, OK.....	!(918)	749	0718*
RBBS IBM PC Walnut Creek, CA.....	!(415)	937	0156*
RCP/M Anchorage, AK.....	(907)	337	1984-
RCP/M Arlington, VA.....	(703)	536	3769-
RCP/M Astronomy, Titusville, FL.....	&(305)	268	8576*
RCP/M Barstow, CA.....	*(619)	256	3914*
RCP/M Beaverton, OR.....	(503)	642	7208*
RCP/M Blue Ridge, Missouri City, TX.....	(713)	438	2247*
RCP/M Boulder, CO.....	(303)	499	9169-
RCP/M Bridgeport, IL.....	(312)	326	4392*
RCP/M CBBS ANAHU8, Anaheim, CA.....	(714)	774	7860*
RCP/M CBBS Columbus, OH.....	(614)	272	2227*

RCP/M CBBS Dallas, TX.....&(214) 931 8274-
RCP/M CBBS Frog Hollow, Vancouver, BC, CN....(604) 937 0906*
RCP/M CBBS MCOM, Melbourne, VIC, Australia...61 3 762 5088*
RCP/M CBBS N.O.C. Comp. Club, Orange, CA.....(714) 633 5240
RCP/M CBBS Pasadena, CA.....(213) 799 1632*
RCP/M CBBS Technical, Detroit, MI.....(313) 846 6127*
RCP/M Chuck Forsberg, OR.....*(503) 621 3193*
RCP/M Colossal Osgate, San Jose, CA.....(408) 263 2588
RCP/M CUG-NOTE, Denver, CO.....(303) 781 4937*
RCP/M CUG-NODE, PA State College, PA.....(814) 238 4857*
RCP/M Dave McCrady, Edmonton, Alberta, CN..*(403) 454 6093*
RCP/M DBASE II, San Jose, CA.....(408) 378 8733*
RCP/M EI Division, Argonne, IL.....(312) 972 6979
RCP/M Flanders, NJ.....&(201) 584 9227*
RCP/M Glen Ellyn, Chicago, IL.....(312) 469 2597*
RCP/M Granada Hills, CA.....(213) 360 5053*
RCP/M Ham Radio, Morton Grove, IL.....(312) 967 0052
RCP/M Hackers BBS, Melbourne, FL.....&(305) 676 3573*
RCP/M Logan Square, Chicago, IL.....(312) 252 2136*
RCP/M Los Angeles, CA.....(213) 296 5927*
RCP/M MCBBS Keith Petersen, Royal Oak, MI....(313) 759 6569 rb.
RCP/M Mid-Suffolk, Long Island, NY.....(516) 751 5639-
RCP/M Mission, KA.....&(913) 362 9583*
RCP/M MV-HUB, Mission Viejo, CA.....!(714) 495 9384-
RCP/M Mississauga HUB, Toronto, Ont., CN...*(416) 232 2644*
RCP/M NEI, Chicago, IL.....&(312) 949 6189-
RCP/M North Chicago, Chicago, IL.....(312) 937 5639
RCP/M Olympia, WA.....(206) 357 7400*
RCP/M Osgate College Station, TX.....(409) 845 0509*
RCP/M Osgate 001, Saratoga, CA.....*(408) 354 5934*
RCP/M Osgate 007, Grafton, VA.....(804) 898 7493*
RCP/M Programmers Anonymous, Gorham, ME.....&(207) 839 2337*
RCP/M Providence, Providence, RI.....(401) 751 5025 we.
RCP/M RBBS AIMS, Hinsdale, IL.....(312) 789 0499*
RCP/M RBBS Allentown, PA.....(215) 398 3937*

RCP/M RBBS AlphaNet, Lawrence, KA.....(913) 843 4259-
RCP/M RBBS Arvada Elect.,Colorado Spngs, CO..(303) 598 4662*
RCP/M RBBS Baton Rouge, LA.....!(504) 273 3116*
RCP/M RBBS Bethesda, MD.....(301) 229 3196
RCP/M RBBS BHEC, Baltimore, MD.....(301) 661 2175*
RCP/M RBBS Cincinnati, OH.....(513) 489 0149-
RCP/M RBBS Computron, Edmonton, Alberta, CN..(403) 482 6854*
RCP/M RBBS Cranford, NJ.....(201) 272 1874*
RCP/M RBBS DataTech 001, San Carlos, CA..#1*(415) 595 0541*
RCP/M RBBS DataTech 007, San Jose, CA.....(408) 238 9621*
RCP/M RBBS DataTech 010, Sunnyvale, CA.....(408) 732 9190+
RCP/M RBBS El Paso, TX.....&(915) 598 1668*
RCP/M RBBS EPSON, Braintree, MA.<pw=Epson>...(617) 848 8281
RCP/M RBBS EPSON, Bristol, PA.<pw=Epson>....(215) 788 5614
RCP/M RBBS EPSON, Dallas, TX.<pw=Epsonstc>...(214) 659 0387
RCP/M RBBS EPSON, Placentia, CA.<pw=Amber>...(714) 632 8332
RCP/M RBBS EPSON, San Francisco, CA.<Epson>..(415) 589 5062
RCP/M RBBS EPSON, Torrance, CA.<pw=Toledo>...(213) 618 8674
RCP/M RBBS Fairfield, CA.....(707) 422 7256*
RCP/M RBBS GFRN Dta Exch. Garden Grove, CA.*&(714) 534 1547*
RCP/M RBBS GFRN Dta Exch. Palos Verdes, CA.*&(213) 541 2503*
RCP/M RBBS Hawkeye-PC, Cedar Rapids, IA.....(319) 363 3314
RCP/M RBBS Helena Valley, Helena, MT.....(406) 443 2768+
RCP/M RBBS Hollywood, CA.....(213) 653 6398*
RCP/M RBBS IBM-PC, Orlando, FL.....*(305) 830 4340*
RCP/M RBBS JUB, Jacksonville, FL.....*(904) 725 4995*
RCP/M RBBS Lakewood, Denver, CO.....(303) 985 1108*
RCP/M RBBS Laurel, MD.....(301) 953 3753*
RCP/M RBBS Marin County, CA.....(415) 383 0473*
RCP/M RBBS NACS/UAH, Huntsville, AL.....(205) 895 6749*rb.
RCP/M RBBS Napa Valley, CA.....(707) 257 6502*
RCP/M RBBS Ocean, NJ.....&(201) 775 8705
RCP/M RBBS Orlando, FL.....*(305) 671 2330*
RCP/M RBBS OvatioNet, Lexington, KY.....!(606) 273 8634-
RCP/M RBBS Pasadena, CA.....*(213) 577 9947*

RCP/M RBBS Paul Bogdanovich, NJ.....(201) 747 7301
 RCP/M RBBS Pegasus, Houston, TX.....(713) 999 1205*
 RCP/M RBBS Pickerington, OH.....(614) 837 3269
 RCP/M RBBS Piconet, Mt. View, CA.....(415) 965 4097
 RCP/M RBBS Rutgers, New Brunswick, NJ.....(201) 932 3879*
 RCP/M RBBS San Diego, CA.....*(619) 273 4354*
 RCP/M RBBS SDCS HEC#04, La Mesa, CA.....(619) 461 5117*
 RCP/M RBBS SDCS San Diego, CA.....(619) 236 0742*
 RCP/M RBBS San Jose Osgate, San Jose, CA.....(408) 287 5901*
 RCP/M RBBS Southfield, MI.....(313) 559 5326*
 RCP/M RBBS Tampa, FL.....(813) 831 7276
 RCP/M RBBS Woodstock, NY.....&(914) 679 8734*
 RCP/M RBBS Yelm, Olympia, WA.....(206) 458 3086 rb.
 RCP/M Rich & Famous, San Francisco, CA.....(415) 552 9968*
 RCP/M Satsuma, Houston, TX.....&(713) 469 8893*
 RCP/M Simi Valley, CA.....(805) 527 2219-
 RCP/M SJBBB Bearsville, NY.....(914) 679 6559*rb.
 RCP/M SJBBB Johnson City, NY.....(607) 797 6416-
 RCP/M Software Tools, Sydney, Australia.....61 02 997 1018*
 RCP/M Sunnyvale, CA.....(408) 730 8733-
 RCP/M Superbrain, Lexington, MA.....*(617) 862 0781*
 RCP/M System One, Toronto, CN.....&(416) 231 9538*
 RCP/M System Two, Toronto, CN.....&(416) 231 1262*
 RCP/M Technical, Thousand Oaks, CA.....&(805) 492 5472*
 RCP/M The C-Line, NJ.....(201) 625 1797-
 RCP/M W. Carrollton, Dayton, OH.....(513) 435 5201*

 Remote Northstar NASA, Greenbelt, MD.....(301) 344 9156
 Remote Northstar, Santa Barbara, CA.....(805) 964 4115
 Remote Northstar, Virginia Beach, VA.....(804) 340 5246

 SOBBB Poor Man's BBB, Houston, TX.....(713) 453 7931*
 SOBBB R.A.M.B., Houston, TX.....!(713) 859 4409*
 SOBBB Test Mode, Houston, TX.....!(713) 660 9252

 ST80-PBB Monroe Camera Shop, Monroe, NY.....(914) 782 7605-

TCBBS Astrocom, New York, NY.....#1(212) 799 4649*

T-NET Central Processing Unit, Plymouth, MI..(313) 547 7903*

T-NET Delta Connection, Lawrenceville, NJ....(609) 896 2436*

T-NET Special Corp, W.Bloomfield, MI.....(313) 855 6321*

T-NET Twilight Phone, Warren, MI.....#1(313) 775 1649*

TBBS Aurora, CO.....#1(303) 690 4566

TBBS Austin, TX.....#1(512) 385 1102*

TBBS Beer City, Milwaukee, WI.....&(414) 355 8839*

TBBS Canopus, Milwaukee, WI.....(414) 281 0545*

TBBS Freelancin' Alvin, Houston, TX.....&(713) 331 2599*

TBBS Freelancin', Houston, TX.....&(713) 488 2003*

TBBS Hawkins, TX.....&(214) 769 3036*

TBBS J.L. Christian, Houston, TX.....!(713) 721 0888*rl.

TBBS Noah's Ark, Fremont, CA.....(415) 490 8083*

TBBS Pizza-Net, Orlando, FL.....(305) 645 5543*

TBBS Shreveport, LA.....(318) 635 8660*

TBBS Tulsa, OK.....(918) 749 0059*

TRADE-80 Albany, GA.....(912) 439 7440*

TRADE-80 Ft. Lauderdale, FL.....#1(305) 525 1192

TRADE-80 Omaha, NE.....(402) 292 6184

MISCELLANEOUS OR UNKNOWN SYSTEM TYPES

Access-80, Tampa, FL.....(813) 884 1506*

ACOM, Houston, TX.....!(713) 530 0164

Aphrodite-E, Patterson, NJ.....(201) 831 1042

Applecrackers, Columbus, OH.....	(614)	475	9791*
ARBB Seattle, WA.....	(206)	546	6239
Atari BBS, Virginia Beach, VA.....	(804)	491	1437*
Aviators Bulletin Board, Sacramento, CA.....	(916)	393	4459
BBS Apollo, Phoenix, AZ.....	(602)	246	1432*
BBS Apple Net II, Susana Knolls, CA.....	!(808)	522	4211
BBS Atari AMIS, Kansas City, MO.....	(816)	587	9543*
BBS Bit Bucket, Portland, OR.....	!(503)	761	6345*
BBS B.R., Los Angeles, CA.....	(213)	394	5950*
BBS Coco, Miami, FL.....	!(305)	681	8490
BBS Coco, Santa Barbara, CA.....	!(805)	687	9400
BBS Coco, Lynchburg, VA.....	!(804)	525	0312
BBS Colornet, Providence, RI.....	\$(401)	521	2626-
BBS Commodore The Grapevine, Santa Ana, CA..	!(714)	838	7345*
BBS Commodore, San Juan, PR.....	(809)	781	0350-
BBS Gandalf #2, Hightstown, NJ.....	(609)	448	8244
BBS Heathkit Store, Warwick, RI.....	(401)	738	5152-
BBS Homestead, FL.....	(305)	246	1111
BBS Jim's Tree, El Cajon, CA.....	!(619)	562	9759*
BBS MUA PSEUDONYM, Houston, TX.....	&!(713)	865	8111*
BBS Victoria BC, CN.....	!(604)	382	2024+
BBS 16 Santa Rosa, CA.....	(707)	527	5900-
BBS SUE Milwaukee, WI.....	(414)	645	6849-
BBS The BULL, Toronto, Ontario, CN.....	(416)	423	3265
BBS 00 DALTRUB, Dallas, TX.....	(214)	289	1386*
BBS Syslink, Providence, RI.....	(401)	272	1138*
BBS Woodworks, Winston-Salem, NC.....	!&(919)	723	5275*dd.
Big Top Games System, Milwaukee, WI.....	(414)	259	9475
Bird House, San Jose, CA.....	(408)	267	7399
Blax 00 BBS, Phoenix, AZ.....	(602)	952	1382*
BBSB Tampa, FL.....	(813)	885	6187
Capital City BBS, Albany, NY.....	(518)	346	3596*
Cass-00 Hickory Hills, IL.....	(312)	598	4861
C-HUB Bulletin Board, Fairfax, VA.....	(703)	360	3812*

C.M.M.S. Chicago, IL.....(312) 957 3924*
Cohoes Forum, Cohoes, NY.....(518) 393 2467
COLOUR-88, Highlands, TX.....!(713) 426 7070*
COLOUR-88, Orange Park, FL.....(904) 264 0335*
Commodore Communications CBM, St. Louis, MO.!(314) 867 6950
Commodore Video King, Skokie, IL.....(312) 674 6502
Compuque-88, Houston, TX.....#1&(713) 444 7041 d1.
Compuque-88 #2, Galveston, TX.....!(409) 265 5296
Compuque-88 #3, Houston, TX.....!(713) 353 0361 d1.
Computers for Christ, Ontario, CA.....(714) 983 9923*
Creepy Corridors, Phoenix, AZ.....(602) 956 5021-
CVBBS #1, San Diego, CA.....(619) 691 8367*
CVBBS #2, San Diego, CA.....(619) 278 9114
Cyruss Dimensions, Houston, TX.....!(713) 376 6382
DATAbase (DABBS), New York, NY.....!(212) 772 7167
Diamond III, Phoenix, AZ.....(602) 890 0972*
Dimension-88 Orange, CA.....(714) 974 9788
Download-88 Mojo's, Forest Knolls, CA.....&(415) 488 9145*
Dragon's Lair, Long Beach, CA.....!(213) 595 9346\$dd.
Drummer, San Francisco, CA.....(415) 552 7671
EMC-88 St. Louis, MO.....(314) 645 1047
Experimental-88 Kansas City, MO.....(913) 676 3613
FBBS #1, Purdue, IN.....&(317) 494 6643*
GBBSII Apple PI, Bloomfield, CO.....(303) 469 7541*
GBBSII Aurora-Net, Denver, CO.....(303) 343 8401*
GBBSII Eamon, Sullivan, CO.....*(303) 750 3783-
GBBSII Off The Wall, Boulder, CO.....(303) 443 3367*
GBBSII Sullivan, CO.....(303) 693 1064-
Genesys, Phoenix, AZ.....(602) 967 4529*
Golden Coco, Houston, TX.....!(713) 941 1542*
Grape Line BBS, Napa Valley, CA.....(707) 538 9124*
H&S Microsystems, Burnaby, B.C.....(604) 430 4145-
HBBS, Victoria BC, CN.....!(604) 384 4711
Hermes-88 Allentown, PA.....(215) 434 3998

HEX Silver Spring, MD.....(301) 593 7033*
 INFOEX-80 Akron, OH.....(216) 724 2125*
 INFOEX-80 Tulsa, OK.....(918) 838 8698*
 INFOEX-80 West Palm Beach, FL.....(305) 683 6044*
 Irvine Line, Irvine, CA.....(714) 551 4336
 JCTS Redmond, WA.....(206) 883 0403*
 K-Net Users Group, Lexington, KY.....!(606) 276 1957
 Knight-Line, Nashville, TN.....!(615) 297 6037*
 L.A. Interchange, Los Angeles, CA.....(213) 631 3186*
 LBBS Friends of Lisp, San Francisco, CA.....!(415) 333 5663*
 Lethbridge Gaming system, Lethbridge, AB.....(403) 320 6923
 Living BBS, Education SIG, San Francisco, CA.(415) 565 3037
 Mages Inn, Omaha, NE.....(402) 734 4748*
 Mags BBS, Lacey, WA.....!(206) 491 4143
 Magus, Herndon VA.....(703) 471 0611*
 Mail Board-82 Seattle, WA.....(206) 527 0897*
 Masspet BBS, East Taunton, MA.....(617) 824 4878-
 MBBS, Mission, BC, CN.....(604) 462 8633-
 Micro-Com, Cincinnati, OH.....(513) 671 2753
 Micro-Com, Louisville, OH.....(216) 875 4582*
 Micro-Dial, Montreal, Quebec, CN.....!(514) 487 2792
 Micro-Dimension, Houston, TX.....!(713) 448 6283-
 Micro-80 West Palm Beach, FL.....(305) 686 3695-
 Micro Informer, Tampa, FL.....(813) 875 3331
 Microsystems, Phoenix, AZ.....(602) 938 4508*
 Midwest, St. Louis, MO.....(314) 227 4312
 Mini-Bin Seattle, WA.....(206) 762 5141*
 MNNNN#1, Santa Monica, CA.....(213) 390 3239-
 MNNNN#2, New York, NY.....(212) 541 5975-
 MNNNN#3, Marina del Rey, CA.....(213) 452 6111-
 MNNNN#4, Lawndale, CA.....(213) 821 2257-
 Motherboard, San Leandro, CA.....(415) 352 0442
 MOUSE-NET, Galveston, TX.....!(409) 744 5095*
 MRC BBS, Mountain View, CA.....(415) 968 1093
 NASA Activities TTY, Houston, TX.....!(713) 483 4115

NBBS Norfolk, VA.....(804) 444 3392
 Nibble One, Schenectady, NY.....(518) 370 8343
 N.O.C.C.C, Orange, CA.....!(714) 961 1135
 Novation CO., Los Angeles, CA.<pw=CAT>.....(213) 881 6880
 NWLAIBMPCUB, Shreveport, LA.....(318) 688 7078
 NWWCUB Edmunds, Seattle, WA.....(206) 743 6021
 OCTUB Orange County, Garden Grove, CA.....(714) 530 8226
 Omega, Phoenix, AZ.....(602) 952 2018-
 Oracle North Hollywood, CA.....(213) 980 5643
 Orange County Dta Exchange, Garden Grove, CA.(714) 537 7913
 OS-9 6809 BBS, Palatine, IL.....(312) 397 8308
 PBBS Arc-Net, Little Rock, AR.....(501) 372 0576*
 PBBS Co-operative Comp Svc, Palatine, IL.....(312) 359 9450*
 PHOTO-80, Haledon, NJ.....(201) 790 6795
 (?) Queens, NY.....(212) 896 0519
 RAINBOARD CoCo Connection 2, Houston, TX....!(713) 772 7327-
 RAINBOARD Cracked CoCo, Houston, TX.....!(713) 772 2090-
 RBBS Grand Illusion, Houston, TX.....!(713) 568 2035*
 RBBS The Meeting Place, Omaha, NE.....&(402) 734 6959*dl.
 RBBS Upland, CA.....(714) 981 3787*dl.
 RIBBS Houston, TX.....(713) 497 5433*
 RI Tandy Users Group, Cranston, RI.....(401) 944 4689*
 RS-CPM Clarksville, MI.....(616) 693 2648
 Satyricon, Burnaby, BC, CN.....(604) 438 2468*
 Seacoast-80, Seattle, WA.....(206) 763 8879*
 SIGNON, Reno, NV.<pw=FREE>.....(702) 826 7234

 Also: \$(702) 826 7277
 SISTER, Staten Island, NY.....(212) 442 3874*
 SoftNet-80, Vista, CA.....!(619) 758 9057*
 Star City BBS, Roanoke, VA.....!(703) 342 1800*
 Steve's BBS/Game Palace, Shawnee Mission, KS.(913) 648 5301*
 Sunrise Omega-80, Oakland, CA.....(415) 452 0350
 Switchboard, Alexandria, VA.....(703) 765 2161*
 System/80 San Leandro, CA.....(415) 782 4402
 Talk-80 ROBB, Portsmouth, VA.....!(804) 393 2925

TCUG BBS, Washington, DC.....	(703)	836	0384*
Tech-Link, Forest Glen, MD.....	(301)	565	9051*
Telcom I/II, Arlington, TX.....	!(817)	265	8220*
Telcom 7, New Fairfield, CT.....	(203)	746	5763*
Tele-Master Message System, Utica, NY.....	!(315)	733	3199*
Telemessage-80, Atlanta, GA.....	(404)	962	0616
The Computer Exchange, Waterford, MI.....	!(313)	623	1089*
The Garden of Eden, Phoenix, AZ.....	(602)	991	0144*
The Interface, Los Angeles, CA.....	(213)	477	4605
The Software Bank, Northridge, CA.....	(213)	701	7670
Toledo Apple Users BBS, Toledo, OH.....	(419)	537	9777*
TVB Systems, Burnaby, BC, CN.....	(604)	738	1640*
VERBA 80, Santa Ana, CA.....	(714)	547	6220
Voyager, Phoenix, AZ.....	(602)	247	6034
Voyeur, San Antonio, TX.....	!(512)	657	5286
Vic-20 Online, Houston, TX.....	(713)	944	6597*
Visiboard, Wellesley, MA.....	(617)	235	5082
WAPABBS, Charlotte, NC.....	(704)	373	7966*
Westside Download, Detroit, MI.....	(313)	348	4479
XID, Houston, TX.....	(713)	495	1422-

MAGAZINES

COMPUTER CORNER



MAGAZINES

In addition to the users' group publications, several major commercially published magazines are written specifically for the IBM PC family of microcomputers. (Two years ago that group included only the PC itself, but the family has already expanded to several other compatible machines!)

If you are at all interested in programming, *Softalk* is one of the most useful all-around PC magazines. It publishes a variety of clearly-written and useful introductory articles and information on various aspects of the PC family of machines. Furthermore, *Softalk* offers a FREE one-year trial subscription to anyone who owns an IBM Personal Computer. This represents an expression of the publisher's confidence that once you try the magazine, you'll like it well enough to renew at the regular rates when your free year is up.

To get your free subscription to *Softalk*, simply cut out the postage-paid card at the back of this book, fill it in, and mail it. (Although the card, printed here by permission of *Softalk* magazine, does not specifically mention *PCjr*, *Softalk* advises us that owners of *PCjr* computers will also be entitled to receive free one-year subscriptions.)

PEANUT is a brand-new magazine published specifically for *PCjr* users, with a first issue in April 1984. *PEANUT* magazine is offering readers of this book who are interested in the *PCjr* a FREE trial subscription to their journal. (See back of the book for the card to fill out for your free *PEANUT* subscription.)

Other major magazines which restrict themselves to the PC include *PC World*, *PC Age* and *PC*. The largest of these, in sheer bulk and number of pages, is *PC*, which was published monthly through 1983, but is now switching to every other week. (This change may, for a while at least, make *PC* easier to lift than the December 1983 issue, which ran about 800 pages and weighed more than three and a half pounds!)

The publishers of *PC* have several additional entries in their stable of periodicals devoted to the IBM PC family. The *PC Tech Journal*, for example, appeals to more technically-oriented users, while new introductions announced for 1984 include a magazine called *PCjr* and a tabloid directed toward the multi-unit business market, *PC Week*.

Many other publications which are not written exclusively for the PC include a great deal of material directly applicable to the IBM PC computers. Some of the larger magazines which publish software articles as well as reviews include *Byte*, *80 Micro*, *Personal Computing*, *Creative Computing*, *Compute!*, *Popular Computing*, *Basic Computing*, *Desktop Computing*, and *Microcomputing*.

The continuing boom in personal computer use has meant that new periodicals continue to proliferate. As a result of the larger and larger volume of magazines and articles, it becomes a problem simply to find out what you might want to read. An interesting new monthly attempts to address this need.

INFOSCAN is published by SYNCOM, a diskette manufacturer, and its specialty is to offer a "Readers' Guide" to computer articles. Each month, *INFOSCAN* supplies a subject index to material published in other periodicals.

At the end of 1983, *INFOSCAN* was indexing articles from some two dozen of the most popular computer magazines. Response during the first 6 months of publication was so favorable that *INFOSCAN* plans to double the number of publications indexed, in addition to providing publisher and subscription information for the magazines involved.

At the end of this chapter we reprint information from the index pages of the February - March 1984 issue of *INFOSCAN*. This will give some idea of the type of articles you might find in the various computer magazines.

(See the last page of this book for a cut-out mailing card which will entitle you to a FREE two-month trial subscription to *INFOSCAN*.)

Some Comments

Which of the many periodicals will you find most useful? Or at all useful? That depends on your interests and current level of computer sophistication (which will increase with time).

The following are some personal observations which may serve as a rough guide:

SOFTALK

For almost any PC user, *Softalk* is an excellent starting point, as an all-around source of well-written articles on varied topics. It has several regular departments which deal with different languages and with the computer's operating system.

Letters from readers, and the well-written editorial responses to reader questions provide valuable information which often applies to your problems.

Softalk also regularly prints useful listings of programs short enough for readers to copy for their own use by actually typing in the complete program. The quality of the articles is evidenced by the large number of programs from *Softalk* which have been incorporated into club library disks.

Sometimes the magazine prints longer articles containing complete listings of fairly involved programs. In such cases, on several occasions they have offered readers the option of obtaining the program on disk, at a total cost of \$8, including postage and handling.

Recommendation: if you are a PC owner and are not already a subscriber, fill out the card at the back of this book to get a year of *Softalk* free!

PEANUT

PEANUT, for PCjr users, had not yet published its first issue at the time we went to press, but it would certainly seem worth while for PCjr users or potential users to take advantage of the free offer and try *PEANUT*.

PC WORLD

PC World has produced a consistently good magazine. Look through a copy and see if it meets some of your needs. In addition to articles, reviews of commercial software, and many pages of advertisements, it has several informative regular departments. "Club News" lists active PC Users' Groups, with addresses and contact persons, while "BBS Watch" performs the same service in regard to information about PC Electronic Bulletin Boards you can reach by telephone. "Star-Dot-Star" (★.★) provides a valuable exchange of reader-to-reader information tidbits.

PC TECH JOURNAL

As you learn more and more about your machine, you may grow interested in some of the technical aspects. At that point you might want to glance at the articles in the *PC Tech Journal*. Look at a copy in the library for starters. See if it appeals to you.

AND THEN

To get an idea of what you might find in some of the other journals, look at *INFOSCAN's* index, then do a bit of library browsing.

Finally—don't forget the users' group monthly newsletters, which come with your club membership. They might be the most valuable of all the publications.

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- **A+**, February 1984, Vol. 2, No. 2, P.O. Box 2964 Boulder, Colorado 80321
- **BYTE**, February 1984, Vol. 9, No. 2, P.O. Box 590 Martinsville, NJ 08836
- **Basic Computing**, February 1984, Vol. 7, No. 2, 5615 West Cermak Road Cicero, IL 60650
- **Business Computing**, February 1984, Vol. 2, No. 2, P.O. Box 815 Tulsa, OK 74101
- **COMPUTE!**, February 1984, Vol. 6, No. 2, Issue 45, P.O. Box 914 Farmingdale, NY 11737
- **COMPUTE!'s GAZETTE**, March 1984, Vol. 2, No. 3, Issue 9, P.O. Box 961 Farmingdale, NY 11737
- **Computers & Electronics**, February 1984, Vol. 22, No. 2, P.O. Box 2774 Boulder, Colorado 80321
- **Computer User**, February 1984, Vol. 2, Issue 2, 16704 P.O. Box 1234, Cerritos, CA 90701 800-453-9700
- **CP/M Review**, January/February 1984, Vol. 3, No. 1, 2711 76th Avenue Southeast Mercer Island, Washington 98040 206-232-6719
- **Digital Review**, March 1984, P.O. Box 2969 Bolder, Colorado 80321
- **80 MICRO**, March 1984, P.O. Box 981 Farmingdale, NY 11737 800-258-5473
- **enter**, February 1984, Vol. 1, No. 4, One Disk Drive, P.O. Box 2685 Boulder, CO 80321
- **Family Computing**, February 1984, Vol. 2, No. 2, P.O. Box 2512 Boulder, CO 80321
- **Family Computing**, March 1984, Vol. 2, No. 3, P.O. Box 2512 Boulder, CO 80321
- **Hi-Res**, January 1984, Vol. 1, No. 2, 933 Lee Rd., Suite 325 Orlando, FL 32810
- **HOT CoCo**, March 1984, Vol. 1, No. 10, P.O. Box 975, Farmingdale, NY 11737
- **Interface Age**, February 1984, Vol. 9, Issue 2, P.O. Box 1234 Cerritos, CA 90701 800-423-6665
- **K Power**, February 1984, Vol. 1, No. 1, Scholastic Inc. 730 Broadway New York, NY 10003
- **Link-Up**, December/January 1984, Vol. 1, No. 4, 3938 Meadowbrook Road, Mpls., MN 55426 612-427-4916
- **Link-Up**, February 1984, Vol. 1, No. 5, 3938 Meadowbrook Road, Mpls., MN 55426 612-427-4916
- **LIST**, February 1984, Vol. 2, No. 2, P.O. Box 319 Martinsville Center Martinsville, NJ 08836
- **Macworld**, Premier Issue, Vol. 1, No. 1, P.O. Box 20300 Bergenfield, NJ 07621 800-247-5470
- **Microcomputing**, February 1984, Vol. 8, No. 2, P.O. Box 997 Farmingdale, NY 11737
- **Microkids**, March 1984, Vol. 1, No. 2, P.O. Box 992 Farmingdale, NY 11737
- **Microsystems**, February 1984, Vol. 5, No. 2, P.O. Box 2930 Boulder, CO 80321
- **Nibble**, February 1984, Vol. 5, No. 2, P.O. Box 325 Lincoln, MA 01773 (617) 259-9710
- **PC World**, March 1984, P.O. Box 6700 Bergenfield, NJ 07621
- **Personal Computing**, February 1984, Vol. 8, No. 2, P.O. Box 2941 Boulder, Pasadena, CA 91107
- **Personal Software**, February 1984, Vol. 2, No. 2, P.O. Box 2919 Boulder, CO 80321
- **Popular Computing**, March 1984, Vol. 3, No. 5, P.O. Box 307 Martinsville, NJ 08836
- **Portable Computer**, February 1984, Vol. 2, No. 2, 500 Howard Street San Francisco, CA 94105 800-345-8112
- **RUN**, February 1984, Vol. 1, No. 2, P.O. Box 954 Farmingdale, NY 11737
- **Sextant**, Winter 1984, Issue 8, 716 E Street S.E. Washington, DC 20003
- **SoftSide**, February 1984, Vol. 7, No. 2, 10 Northern Blvd. Amherst, NH 03031 800-345-8112
- **Softalk**, February 1984, Vol. 4, P.O. Box 7039 No. Hollywood, CA 91605
- **Softalk IBM**, February 1984, Vol. 2, P.O. Box 7040 No. Hollywood, CA 91605
- **Software**, Vol. 1, No. 2, Suite K 2803 Ocean Park Blvd. Santa Monica, CA 90405 800-227-3800 EXT 536
- **The Color Computer Magazine**, February 1984 Vol. 1, No. 12, P.O. Box 468 Hasbrouck Heights, NJ 07604

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A+, February 1984

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BYTE, February 1984

- Calculating overhead costs
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- Savvy (Review)

Business Computing, February 1984

- Business PC use
- Beating the tax burden:
Prepare it on a PC
- Commodities trading
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- PCs up pace and
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- Buy direct from IBM and
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- Market forces skew
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Digital Review, March 1984

- Blueprint for success:
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- Model software: TKISolver
helps create and
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80 MICRO, March 1984

- Account for yourself
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Family Computing, February 1984

- Typesetting by modem:
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Family Computing, March 1984

- A father-son repair team
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Rockies: Home Business

Interface Age, February 1984

- Evaluating three time and
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Partner (Review)
- CPAids' Tax Planner
package: A nearly perfect
aid for CPAs (Review)

- MoneyTrack accounting
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- Keeping track of work in
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- Streamline your inventory
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- IBM's PC provides the
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- Records managers face
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Link-Up,

December/January 1984

- Information utilities for
business people: The
Business Link

LIST, February 1984

- KnowledgeMan: MIS
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- General Ledger (Review)

- The Desk Organizer
(Review)
- How to Choose Your Small
Business Computer
(Book review)
- Tax deductions and credits
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- How I got a 189% return
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- Surviving the adolescence
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- Headed for broke, they
doubled profits
- Personal computers: A
springboard for corporate
information centers

Microcomputing, February 1984

- The good, the CAD and
the Apple: Part 2 of the
author's computer-aided-
design tutorial

Nibble, February 1984

- The Nibble Investor and
commission accounting:
Track purchase and sale
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PC World, March 1984

- Brokerage firms go on line:
Investors log on for instant
information

Personal Computing, February 1984

- Transportables let you take
it all with you
- Environment software:
Opening new windows on
your work

- Why Japanese computers aren't selling in America
- Landlord: Property management package (Review)

Personal Software,

February 1984

- Blue Chip: Portfolio program

Popular Computing,

March 1984

- Business software for the Model 100

Portable Computer,

February 1984

- Portables on the road: A firsthand report on how a TRS-80 Model 100 is used by a traveling salesman

RUN, February 1984

- A cure for the ailing doctor's office

Softalk, February 1984

- Choosing a system, databases, books, Lisa: Mind Your Business

Softalk IBM, February 1984

- A manufacturing system for the PC: Manufacturing software within reach of smaller companies for the first time
- Tax Preparer, by Howard Soft: Micro Finance

Software, February 1984

- Construction profits (Job costs)

The Color Computer

Magazine, February 1984

- Mail List

APPLICATIONS — COMMUNICATIONS & NETWORKING

A+, February 1984

- The everything box: Plug your Apple into the whole world

BYTE, February 1984

- IBM/Apple communication: Sending text files between Apples and IBM PCs

Business Computing,

February 1984

- Business—only network now on line

Computers & Electronics, February 1984

- Videotex and you

Computer User, February 1984

- Two bulletin board systems you can install

Digital Review, March 1984

- The (still?) missing link: Third-party PRO and Rainbow networks
- Clear to send: Five comm packages (Review)
- A dialogue with Dialog

80 MICRO, March 1984

- Intellitem (Review)
- Transfer: Now two micros can share Profile files (Review)

- Trend Analysis: Watching the stock market (Review)

Family Computing, March 1984

- The world is your oyster

Interface Age, February 1984

- Telex from your terminal
- Unix: Operating system of the future?
- Does your business need an electronic mail system?: Data Communications

K Power, February 1984

- A networking guide: Reach out and access someone
- Konnect with the K-Net: A K-Power network hooked up by modem
- How to hook up your own bulletin board: Dr. Cursor's Clinic

Link-Up,

December/January 1984

- Dialog—the know-it-all utility: Information retrieval company
- Bulletin boards: Online

Link-Up, February 1984

- Online information: The business of 1984
- Online news—United Press International: Read all about it as it's happening
- Online weather: Access the latest reports
- Online sports: Sports scores, stats and more

- Online legislature:
Watching the government
- Online encyclopedias:
Accessed with a few
keystrokes
- Online newsletters —
NewsNet: 'Sample' a few
copies before you decide
to subscribe
- Online advertising:
Advertising will soon be
appearing on your
computer screen

Microkids, March 1984

- Exploring electronic mail

Personal Software,

February 1984

- DataCapture IIe: Data-
communications package
- TellStar

Popular Computing,

March 1984

- Telecomputing: The merits
of Compuserve's E-Mail
and Sourcemail

Portable Computer,

February 1984

- Portable to portable: A
practical guide to making
contact

RUN, February 1984

- Reach out and touch-tone
someone: Connect your
C-64 with the outside world

SoftSide, February 1984

- The World Connection:
Telecommunications is
affordable

- Entertainment Tomorrow:
The futurephone: A
broader view (Part 4)

Softalk, February 1984

- Unscrambling celeb
phone numbers: Contest:
Dialing for the Fun of It
- Telecommunications terms,
protocols: Keys to the
World

Softalk IBM, February 1984

- Communications software:
Comm Lines

Software, February 1984

- When the chips are down:
Speech activated modem
for inventory control
- Shopping executive style:
With an on-line service

APPLICATIONS — DATABASE/FILE MANAGEMENT

A+, February 1984

- How to dBASE II: Part IV
in a tutorial series on
dBASE II

BYTE, February 1984

- Knowledgeman: Database
and spreadsheet in one
package

Business Computing,

February 1984

- The database primer
(Part 2)
- ResQ: A mid-range file
manager (Review)

COMPUTE!'s GAZETTE,

March 1984

The data base as a home
information center

- Data Manager for the
Commodore 64 (Review)
- The Indexer: VICreations
(VIC-20/64)

Computer User, February 1984

- A data base management
system for
non-programmers
- How to define computer
data: Starting Point

CP/M Review,

January/February 1984

- Online databases

Family Computing,

February 1984

- A data-base reunion: Data-
base-management
programs can have
endless applications

Microcomputing, February 1984

- Solving a pfs mystery:
What's New, Big Blue?

Microsystems, February

1984

- It's a database, it's an
editor, it's a language—it's
dBASE II

Nibble, February 1984

- Quickfile II: A review of
Apple's new DBMS for
the IIe

Personal Computing,

February 1984

- Power-Base (Review)

Personal Software,

February 1984

- The Manager

Popular Computing,

March 1984

- Statistics made easy: Micro Data Analyzer
- Metafile: Integrated data-management

RUN, February 1984

- Database Deluxe: This file handler for the C-64 or Vic-20 will store, categorize and sort your data
- The straight A program: Keep track of numerical data

Software, February 1984

- DataFax: You don't have to think like a computer to use a DBMS

**APPLICATIONS —
EDUCATION**

Analog Computing,

January 1984

- Griffin's Lair (Educational programs review)

A+, February 1984

- Special machines for special children: Teach handicapped pupils

COMPUTE!, February 1984

- Potentials and limitations: Learning With Computers
- Special education applications: Micros With The Handicapped

- The World Inside The Computer: Computing to read

COMPUTE!'s GAZETTE,

March 1984

- Tree Tutor for Tots
- Guess America! For 64

Computer User, February 1984

- Easing hands-on computer time for teachers
- The ultimate teacher's assistant
- The CAI journey
- Students key in on the computer revolution
- Polynomial functions: A different view
- Computers: Power tools for education

- PCs go to college:

Computer Classroom

Digital Review, March 1984

- Knowledge is power: Computer courses

80 MICRO, March 1984

- Learning & Teaching Programming: An incomplete guide to TRS-80 Basic (Review)

Family Computing,

February 1984

- Home-School Connection

Family Computing, March 1984

- Learning to type is the first step to computer literacy: Home-School Connection

Hi-Res, January 1984

- The family place: Pre-school and early learning programs
- Kids and the Atari (Part 1 of a series): A few lessons for beginners

HOT CoCo, March 1984

- Generic foreign-language aid

Link-Up,

December/January 1984

- Online learning: Online learning is a reality

Microcomputing, February 1984

- Smarter than the average Atari: Atari 400 — an intelligent graphics interface

Microkids, March 1984

- Beat the SAT... maybe: Your trusty computer can now help you prepare for the SAT

Nibble, February 1984

- Flashcard: Take the drudgery out of math drill: Education Corner

Personal Computing,

February 1984

- Toward a more thoughtful use of computers in education

Personal Computer Age, December 1983

- The future of education is tied to the computer: Computers in Education

Personal Software,

February 1984

- CATLAB: A program designed to teach genetics
- Gertrude's Puzzles: Turns analytical thinking into child's play
- Math Maze
- Speed Reading: Improve rusty reading skills
- MasterType: This program blends touch-typing drills with arcade-style action

Popular Computing,

March 1984

- Educational Computing: What exactly is 'computer literacy'?
- Do-it-yourself learning games

Sextant, Winter 1984

- Kids & computers: Herbert is my best friend

APPLICATIONS — GRAPHICS

Analog Computing,

January 1984

- Fine scrolling (Part 3)

A+, February 1984

- Tablets for IIs
- The Graphic Solution: Animation system and graphics editor

BYTE, February 1984

- Five original graphics

Basic Computing,

February 1984

- In the chips: High-speed graphics (Models I/III/4)

COMPUTE!, February 1984

- Commodore 3-D Drawing Master (VIC, 64, Apple)

Computer User, February 1984

- 65025: PEEK the magic number (Model 100)

80 MICRO, March 1984

- Character sketching: The Model III's special characters
- A piece of the pie: Draw pie charts (Models I, III)

enter, February 1984

- Pixel perfect
- Graphic details
- The 'Cats' meow: Computers for special effects

HOT CoCo, March 1984

- Colormania (Part 2): Use high-speed graphics via machine-language subroutines
- Video Van Gogh: Draw and store screen graphics
- Exquisite screen scroll: Speed up Basic hi-res graphics scrolling

K Power, February 1984

- Programs: Symphony in 3D is the latest in electronic meditation (Apple, Atari, TRS-80 CC, IBM PC)

Macworld, Premier Issue

- MacPaint: The electronic easel: The Mac's versatile graphics program
- SimpleSketch
- Macworld gallery: An exhibition of Macintosh graphics

Microkids, March 1984

- Secrets of the computer artist

Nibble, February 1984

- Hi-Res character drawing: Graphics Workshop
- Fancy Hi-Res picture loading: End the woes of Hi-Res picture loading

Personal Computing,

February 1984

- HP 7475A graphics plotter (Review)

Personal Computer Age,

December 1983

- Hewlett-Packard's new Model 7475A Plotter

Popular Computing,

March 1984

- The Graphics Kit: A programming aid for Timex/Sinclair
- Computer-aided design on the IBM PC: Microcad

RUN, February 1984

- C-64 graphics galore: Which program best utilizes your Commodore's graphic potential?
- Shortcut to color: Use this simple Color Setter program
- Spriten up!: Takes the tedium out of programming sprite graphics

- Create a VICasso: Design your own custom characters
- Softalk**, February 1984
- Budge's graphic's zone; HLine: The Graphics Page
- Software**, February 1984
- A \$100,000 dilemma...a \$9,000 resolution (Computer aided design)

APPLICATIONS — HOUSEHOLD

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- Magic Storybook (Review)
- COMPUTE!'s GAZETTE**, March 1984
- The electronic castle: Managing your home with your computer
- Computing for families: Computer show and tell
- Family Computing**, March 1984
- The computer: A new tool for the garden
- Soup's on-line
- HOT CoCo**, March 1984
- Dental/medical bill balancer: Keep track of your medical and dental expenses
- Personal Software**, February 1984
- Wills: Protect your assets with Wills
- Sextant**, Winter 1984
- Tracking home finances with the Home Finance System
- The Color Computer Magazine**, February 1984
- Rx management

APPLICATIONS — MISCELLANEOUS APPLICATIONS

- A+**, February 1984
- Nations shape their futures with Apples: Apples help Third World nations make crucial population-control decisions
- High-tech muscle tone: Apple helps you go from fat to fit
- Floating to success
- Computer User**, February 1984

- Biorhythms and your CoCo
- CP/M Review**, January/February 1984
- Turn your Kaypro into a TRS-80: UniForm, a multipurpose translator (Review)

- 80 MICRO**, March 1984
- Math-Analyzer-Paks (Review)

- Family Computing**, February 1984
- 64 inches of courage
- Winter programs: Create a personal Valentine: Go skiing down a treacherous course (ADAM, Apple, Atari, Commodore 64 and VIC-20, IBM, TI, Timex, and TRS-80 computers)
- HOT CoCo**, March 1984
- Colorful cryptology (Part 7): Use nonalphabetic techniques to produce secret text

- Interface Age**, February 1984
- Tax Decisions software: It takes the dread out of April 15 (Review)
- HowardSoft's Tax Preparer (Review)

- Nibble**, February 1984
- Nibble Garage: Scheduling car care is a snap with this Applesoft program

- Sextant**, Winter 1984
- Heath/Zenith users in uniform: A couple of the Heath/Zenith users in the armed forces

- Softalk IBM**, February 1984
- The PC provides patient care

APPLICATIONS — MUSIC/SPEECH/ SOUND

- Analog Computing**, January 1984
- Music Synthesizer
- A+**, February 1984
- Back talk and lip service: Voice recognition and speech synthesis for the Apple
- Breaking the sound barrier: alphaSyntauri digital sound synthesizer

COMPUTE!'s GAZETTE, March 1984

- COMvoice: Voice synthesizer for the VIC-20 (Review)

Hi-Res, January 1984

- Music theory drills

Microkids, March 1984

- The sound and the fury (TRS-80, I/III/4)

Personal Computer Age, December 1983

- Scoring music on your PC

Personal Software,

February 1984

- Music Construction Set

SoftSide, February 1984

- Computers and musical expression: A conversation with Paul Lansky and Steve Birchall
- Compact discs: The dawn of audio's golden age
- Computers, lasers, music, and theatre: A conversation with Paul Earls and Steve Birchall
- The digital sound: Making music with Soundchaser

APPLICATIONS — RECREATION/ ENTERTAINMENT

Analog Computing,

January 1984

- Rally Speedway (Review)
- Star Trek Simulator (Review)
- Eagles (Review)
- Knights and Chalice
- Bricklayer's Nightmare

A+, February 1984

- Reviews of Lady Tut, Minit Man, and Zaxxon: That's Entertainment

BYTE, February 1984

- Deciphering word games: Solve cryptograms and anagrams

Basic Computing,

February 1984

- Plust: A generate-the-longest-path game (Models I/III/4)
- Magic Squares: A graphic remember-the-pattern game (Models I/III/4)
- The Castle: A pocket fantasy adventure (PC-1)

- Never Say Die: A strategy game where you must get the right total to win (Models I/III/4)
- Mental Madness: What do the figures really say? (Models I/III/4)
- Your computer can learn: Play LASTX and see the computer get 'smarter' (Models I/III/4)
- Advance to go: Compute the odds for the grand old game of Monopoly (Models I/II/III/4/12/16/Color Computer)

- Bridge-80: Become a Life Master (Models I/III/4)

COMPUTE!, February 1984

- What makes a good game?: The many things software designers have to consider when they're creating a game
- The future of electronic games: Programmers outline their ideas
- Circus (VIC, 64, Atari, TI-99/4A)
- Quattrainment (VIC, 64, TI-99/4A, Apple, IBM PC, Color Computer)
- Gotchal (VIC, 64, Atari)

COMPUTE!'s GAZETTE, March 1984

- Cut-Off: All-machine-language game for Commodore and VIC-20
- Trenchfire (VIC-20/64)
- Poker (vic-20/64)
- Purple Turtles (Review)
- Seafox for the VIC-20 (Review)
- Sea Route to India: A historical simulation for the 64

Computer User, February 1984

- Snow Command: The game playing algorithms: Personal Arcade

80 MICRO, March 1984

- TRS-nuke: Your TRS-80 becomes a nuclear power plant (Model I)
- Bugs from outer space, part 1 (Models I, II)
- A new pair of shoes: A craps game

enter, February 1984

- The game makers: A video game grows from idea to arcade

Family Computing, February 1984

- Puzzle: True Love
- Reader-written program
- Don Bluth and interactive animation: Games

Family Computing, March 1984

- She just keeps scrolling along: The ups and downs of game design

Hi-Res, January 1984

- Number Maze

HOT CoCo, March 1984

- Possum Run
- Wordsearch: Create your own wordsearch puzzles for hours of fun
- Mission: Mars: Here's a lunar-lander-type game for Color Basic and MC-10 users

K Power, February 1984

- Hacker heaven: Programs for ADAM, Atari, Apple, Commodore 64 and VIC-20, IBM, TI, Timex, and TRS-80
- Puzzle power: Translate or improve our Word Twister puzzle and get a chance to win a Timex color 2068
- Strategy: 12 tips for tackling Archon

LIST, February 1984

- This thing tells the truth about your tennis game

Microcomputing, February 1984

- Amazing game, how sweet the sound: The magical game of mazes

Microkids, March 1984

- Mastering Dragon's Lair
- Type Attack: More than just a game

Nibble, February 1984

- Safecracker: Beat the cops!
- Speed Maze: Arcade action on the Lo-Res screen

PC World, March 1984

- For Game Gourmets: Beneath Apple Manor, Frogger, and Gridstar (Review)

Personal Computer Age, December 1983

- Flight Simulator: Three viewpoints

Personal Software, February 1984

- Millionaire: A realistic, entertaining simulation of stock-market trading
- Spare Change
- Murder By The Dozen
- Witness: Detective-story interactive fiction from Infocom

Popular Computing, March 1984

- Survivor: A multiplayer game
- Murder on the Zinderneuf: Mystery thriller

RUN, February 1984

- Speedy Mosquito: Speedy little mosquitoes are your prey in this fast-paced game for the C-64
- Sure-shootin' gallery: Step right up and take aim with this VIC-20 game
- Iron hand or VIC-20?: Expand your kingdom while forestalling grain drain

The Color Computer

Magazine, February 1984

- Sorcerer's Puzzles

APPLICATIONS — SPREADSHEETS

A+, February 1984

- Advanced uses of VisiCalc: How to create VisiCalc spreadsheets

Basic Computing, February 1984

- Exploring VisiCalc: Date computations (Models I/II/III/4/12/ 16)

Business Computing, February 1984

- A look at SuperCalc (Review)
- Spreadsheets — keeping a mini-ledger

CP/M Review

January/February 1984

- The Financial Planner

Digital Review, March 1984

- Assuming the Lotus position: 1-2-3 (Review)

Macworld, Premier Issue

- Multiplan meets the Mac: The Macintosh teams up with Microsoft's venerable spreadsheet program
- Investing with Multiplan: Constructing a simple stock portfolio valuation worksheet

PC World, March 1984

- SuperCalc3: Are superior graphics and easy data management enough? (Review)
- /X marks the macro: Automate spreadsheet functions with 1-2-3's advanced macro capabilities

SoftSide, February 1984

- Calc/Side: Forecasting future earnings

Softalk IBM, February 1984

- Portfolio analysis: The Spreadsheet Guru

Software, February 1984

- A CPM model for project planning

**APPLICATIONS —
WORD PROCESSING/
REPORT GENERATION**

A+, February 1984

- The Apple cast of characters: Unlimited choice of fonts
- Questions about how to enter control characters into Apple Writer II: Rescue Squad

BYTE, February 1984

- The word-processing maze
- Evaluating word-processing programs

Basic Computing,

February 1984

- BASIC bits: Answers to readers' questions about Scripsit, SuperScripsit and printers (Models I/III/4)

Computer User, February 1984

- Move up from Scripsit to WordStar

80 MICRO, March 1984

- The return of Hinrichs' word processor (Models I, III)

Interface Age, February 1984

- Quark's Word Juggler: First rate word processing (Review)
- Punctuation + Style: An effective grammar detective (Review)
- Multi-Tools Expert Systems: Worksheets without the work (Review)

LIST, February 1984

- PFS:Write (Review)
- Superwriter (Review)
- Practical WordStar Uses (Book review)

Macworld, Premier Issue

- Word processing's new look: The capabilities of MacWrite
- Tips for Mac writers: Twenty-five word processing hints to help you use MacWrite more efficiently

Microcomputing, February 1984

- Easy script word-counting: PET-pourri
- You ain't writin' too good?: Oasis Systems' Punctuation & Style

Microsystems, February 1984

- Using WordStar to create Mailmerge—compatible dBASE II files

PC World, March 1984

- The almost-perfect library: Perfect Software enters the integrated package race (Review)
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- The Speller: A new spelling checker
- HomeWord

Softalk IBM, February 1984

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- Speeding up WordStar, and other personal preference adjustments

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BUYING DECISIONS**

- BYTE**, February 1984
- The Rixon R212A intelligent modem (Review)

Digital Review, March 1984

- Something for everyone: Modems

Family Computing,

February 1984

- Buyer's guide to graphics tablets, light pens, and software

Family Computing, March 1984

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Link-Up,

December/January 1984

- Shopping for computer communications equipment
- Computer Communications Buyer's Guide

PC World, March 1984

- PC World Directory: A classified guide to products and services

Personal Computing,

February 1984

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Personal Software,

February 1984

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- Computing your income tax: Tax preparation software

Portable Computer,

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January 1984

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- Bypassing the keyboard: Extend your Apple: Thoughtware

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- An interview: The Macintosh design team
- Benchmarks and performance evaluation
- Don't bench me in: Benchmarks are popular, but how meaningful are they?
- Beyond MIPS: Performance is not quality: There's more to quality than speed of operation
- Software performance evaluation
- Benchmark confessions: The background and intentions of benchmarks

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- New Model 2000 software and a Model 100 telephone dialing program: Tandy Topics

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- Data base hikes photogs' exposure
- The business of writing for profit (Case study)

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- How COMPUTE! readers use their computers: Reader survey
- The book of the future: Electric, unending, and written in RAWM

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- A guide to Commodore users groups (Part 1)
- HOTWARE: A look at this month's best sellers and the software industry

80 MICRO, March 1984

- The whole earth computer: Build a 4-bit computer

- from screen door springs and dominoes
- Fast backwards: Reverse Polish notation (Model 100)

Family Computing, February 1984

- Better safe than sorry: A description of insurance policies to protect your new addition to the household

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- Rendezvous with a robot
- How to build a computer carrel

HOT CoCo, March 1984

- Convert TRS-80 Model I/III programs to the CoCo: The Basic Beat

Interface Age, February 1984

- Learning micros at Club Med: Computer Training

K Power, February 1984

- Pirates & raiders: The computer-abuser subculture
- For dogs only: Woof Ware (Humor)
- One teen's inside look at a software company: Scrolling in Dough
- 'Whiz kids': Networking goes prime time

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- Link-Up interview: A modest interview with Ward Christensen

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- Polishing the Mac: Microsoft's Bill Gates discusses the development of the Macintosh
- Macware news: Announcements of the latest developments in Macintosh hardware and software
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Microcomputing, February 1984

- What do you mean 'compatible'? Mini-course in compatibility

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- Here come the robots!
- How to create your own secret codes
- The Vid kid: News & views
- How to choose a computer camp

PC World, March 1984

- Open doors: New products and organizations help the disabled communicate and work

Personal Computing, February 1984

- Making the computing process your own: People in Computing
- Getting started

Personal Computer Age, December 1983

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- Output from the crystal ball: Industry looks at the future of microcomputing
- Clubs

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February 1984

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March 1984

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- Computers in science fiction
- IBM PCjr: Will it sell?
- Documentation comes of age: New approaches are making those formidable manuals more user-friendly

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SoftSide, February 1984

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- Exec Human Systems Dynamics: A quieter revolution: Computers are changing the way we work, play, learn, think, and perform statistical analysis
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- Softalk IBM**, February 1984
- Softalk/IBM's software poll
- The Color Computer Magazine**, February 1984
- Getting published
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- A+**, February 1984
- Apples go industrial: An array of interface cards
- BYTE**, February 1984
- Build the Circuit Cellar Term-Mite ST smart terminal (Part 2): Programming and use
- The Micro-Sci Gameport III for the Apple III
- The Videx Ultraterm
- A low-cost, low write-voltage EEPROM (Review)
- Foot Control: A foot-operated Control key
- Bubbles on the S-100 bus (Part 2): The software: MDOS and CP/M on a bubble-memory board
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- 80 MICRO**, March 1984
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- The forgotten interface: The III's parallel I/O bus
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- Popular Computing**, March 1984

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- Xenix, graphics boards, and multiplexing: Boards and Buses
- The Color Computer Magazine**, February 1984
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- The art of benchmarking printers
- Computers & Electronics**, February 1984
- Jet set printers
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- The Dynax DX-15: An affordable daisy wheel printer
- Quality printing at a reasonable price
- Digital Review**, March 1984
- Extra or excess?: Diablo's extended-character printer
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- Sneak a PEEK, invoke a POKE: Speed up PRINT graphics (Model III)
- Brother Compactronic 60 (Review)
- Macworld**, Premier Issue
- Apple's Imagewriter printer: What you see is what you get with the Imagewriter
- Microcomputing**, February 1984
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- Nibble**, February 1984
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Sextant, Winter 1984

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- More than just a pretty typeface: Take a look at M.P.I.'s 99G

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- Apple disk emulators: Axion, Legend, Pion, and Synetix (Review)

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- A mouse in the hand: Meet the electronic device that communicates your commands to the Mac

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- The wide world of alternative input devices

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- Getting started with a disk drive (Part 5): Questions and answers

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- Disks and drives
- Multi-megabyte minifloppies

80 MICRO, March 1984

- Thanks for the memory (Model 100)
- TRSDUM: Save cassette programs to disk (Review)

Microkids, March 1984

- Inside your disk drive: Input for advanced users

Microsystems, February 1984

- CP/M disk parameter tables

PC World, March 1984

- Direct to disk: Disk magazines are changing the way people receive computer information (Review)

RUN, February 1984

- Mystery of the black box revealed: The 1541 disk drive

Sextant, Winter 1984

- Adding 16K memory to the '89 — a low-budget alternative

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Analog Computing,

January 1984

- Inside the new Atari 600XL

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- The Apple Macintosh computer
- The IBM CS-9000 lab computer
- Apple announces the Lisa 2 (Review)

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- The inner world of computers (Part 5): Small is beautiful

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- Adam arrives
- A first peek at the Sharp PC-5000
- An 8-bit computer gets a new operating system: Epson's QX-10

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- An apples and oranges situation? (Hardware review)

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- Good things come in small packages: Personal Micro Computer's MicroMate (Review)

- NEC Advanced Personal Computer

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- The Model 4P (Review)

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- A Hands-On Review: Timex 2068
- New hardware announcements: The Dragon computer

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- Inside the Mac: A close-up look at the hardware that gives the Mac its amazing power and speed

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- On the designing of micros: Techniques
- Kaypro joins the PC crowd: How you can have IBM software running on your Kaypro
- Dimension 68000: The epitome of compatibility?: The Dimension 68000 can emulate IBM, Apple, TRS-80, Osborne, Kaypro and just about everything else
- Apple's back with the Mac: Preview of the Macintosh
- Timex's 'timely' upgrade: The 2068 offers color, a new keyboard style and layout and a \$199.95 price tag

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- Peanut computer meets reality

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- Kaypro 10 (Hardware review)

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- Backtalk: Louise Rude's second sight; Lotus's Mitch Kapor went nuts over IBM's pc. Now he's keen on Macintosh

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- CoCo world control: Build a real-world interfacing device

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- Give the Osborne a break (key): Improve your Osborne's value

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- Display Manager

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- Passports for portables: Export regulations

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- BASIC cassette Recovery

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- Writing device drives for MS-DOS 2.0 using Tandon TM100-4 drives

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- Dr. Video 64

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- Using data files, part 2: Random-access files (Models I, II, III)
- Wipe out: delete Model 100 files with a single keystroke

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- Give your disk drive a one-track mind
- Build a better error trap
- K-Bug: List your Basic programs byte by byte

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Analyzes your Microsoft Basic program and prints a detailed report of its variables

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- Banish gremlins from your interfaces: Use various CP/M-based software in combination

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- Custom Catalog: Make DOS display the symbols and file names you want to see
- Greeter Maker: EXEC your greetings! Or BRUN them!

- 80 column magic for the Apple IIe: Double your catalog, double your fun
- Amper-Catalog
- Noboot: Crash-proof your DOS-less data disks
- Eleven free sectors: Steal back the eleven sectors DOS claims

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- Foreign languages: Programming The TI
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- Making more readable listings (VIC-20/64)
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- Learning Logo is a family affair
- Different versions of Logo
- The man behind Logo: Seymour Papert, the inventor of Logo (Interview)
- The programmer

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HOT CoCo, March 1984

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Microcomputing, February 1984

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- The CATALOG command: Learn how DOS processes the CATALOG command: Disassembly Lines

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- Big ideas from Smalltalk
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- LISP is no impediment: Versatile and powerful
- IQLISP: Mainframe LISP power for your PC
- The Assembly Line

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RUN, February 1984

- A taste of arrays: A step-by-step tutorial
- Fancy fingering on the function keys
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- Triple threat: Manipulating number bases — hex to octal to decimal
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- Disk Master revisited
- Beyond the manual: This programming lesson teaches you to assign values to variables

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- More double-precision Trig functions

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- String variables — commands, functions: Follow the Floating Point
- General-purpose BDOS subroutine library: SoftCard Symposium
- Compatibility problems; VisiCalc DIF files: DOSTalk

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- Socha's Toolbox: The making of a toolbox program
- Preparing for Junior: Beginners' Corner
- While loops and other matters: The C Spot

- Program control; the MARK utility: The Right to Assemble
- UCSD Pascal: An update: Pascal from Begin to End
- Peeking, Poking, and stalling: The BASIC Solution

The Color Computer

Magazine, February 1984

- Non-extended editor
- Dissecting your ROM
- Color computing for kids: Arrays and dimension statements

POTPOURRI OF PROGRAMS



A POTPOURRI OF PROGRAMS

In this chapter we print a selection of short sample programs which you can adapt to your purposes or use as they stand. All will run on any of the machines in the PC family, PCjr, PC or PC-XT.

In order to minimize the typing labor required before you can try them, the programs are listed without the usual quota of remarks. Instead, we discuss the programs, and you can add your own descriptive comments, as REM statements, before you SAVE the programs.

The programs are printed as they would look on a screen set for 40 columns (WIDTH 40). This provides at least a partial check on whether you have copied the listings exactly as shown. (That can be important.) In BASIC, you type the statement number first, then continue without pressing the ENTER key (↵), even if you come to the right end of the screen. Only when going to the next numbered statement line do you ENTER.

First a couple of short compositions which show that if you can read music, you can write it for your PC. (PCjr can do an even better job, because it has more capabilities. You can play chords, control volume, and add other fancy touches which aren't included in these samples.)

The music programs require advanced basic (BASICA). If you're using PCjr you'll need the BASIC cartridge. Now just go ahead. Type the first program. Then RUN and listen.



MOUNTAIN

SHE'LL BE COMIN' ROUND THE MOUNTAIN

1. She'll be com in' 'round the moun - tain when she
 2. (She'll be) driv - in' six white hors - es when she
 3. (Oh, we'll) all — go to meet her when she
 4. (Oh, we'll) kill the old red roost - er when she

10 CLS:PRINT "She'll be comin' round the mountain"

20 M1\$="mft200o3mnL4"

30 M2\$="deggg.g8edo2bo3d"

40 M3\$="mlg1mngp4gabbb.b8"

50 M4\$="o4do3bagmla1mnap4o4dc"

60 M5\$="o3bbb.b8agggeee.e8"

70 M6\$="agf#eddgp8a8baef#"

80 M7\$="mlg1mngp4"

90 MOUNTAIN\$=M1\$+M2\$+M3\$+M4\$+M5\$+M6\$+M7\$

**100 PLAY MOUNTAIN\$: PLAY MOUNTAIN\$+"deml
g1mngp4"**

If it doesn't sound right, check your typing. You can listen to part of the music at a time after you've run the program and the OK prompt is back on the screen by typing **PLAY M2\$** followed by the ENTER key, for the beginning. **PLAY M3\$** (or **M4\$** etc.) will give the following sections. (**M1\$**, in line 20, does not play any notes. It sets the tempo, octave and other starting conditions.)

Line 100 is the one which actually plays the music, with the statement "**PLAY MOUNTAIN\$**". The repeated **PLAY** instruction gives a second verse, and the last few notes provide the closing. (If you think once around the mountain is plenty, take out the repeat.)

TRAPEZE (more music)

Here's another composition to try:

He floats thru the air with the great - est of ease, The

110 CLS: PRINT "Daring Young Man on the
Flying Trapeze"

120 T1\$="mf t200 o3 mn 14"

130 T2\$="ddgabbbb o4 c o3 eea2.df#g"

140 T3\$="abaaged2ddgabbbb o4 c o3 eea2dd"

150 T4\$="f#gabag1 p4"

160 T5\$="e8f#8gf#egf#eebbb2e8f#8"

170 T6\$="gf#egf#e o2 b1 p4 o3 e8f#8"

180 T7\$="gf#egf#eebbb2b8b8bbbbbb2."

190 T8\$="o4 d1. mn o3"

200 TRAPEZE\$=T1\$+T2\$+T3\$+T4\$+T5\$+T6\$+T7\$

210 PLAY TRAPEZE\$: PLAY T8\$+TRAPEZE\$

The second ditty also runs twice around, with T8\$ providing the bridge between stanzas. Notice that this program is typed with spaces in the music directions. They're not necessary, but were put in to make it easier to distinguish the instructions which are not musical notes. In line 120, "t200" sets the tempo at the beginning of the song. "o3" calls for the appropriate piano octave (middle C). "mn" indicates music normal, neither staccato nor legato. "L4" specifies that except where a different number is used, all notes are assumed to be quarter notes.

It makes no difference at all whether you use capital letters or lower case when you type the music "strings" (computerese for non-numeric material). Lower-case was used here to make it easier to distinguish between letters and numbers.

For more about all this, look in your manual under the PLAY pages. Try typing in some other songs. One thing to remember: Since no string is permitted to be more than 255 characters long in BASIC, you will need separate strings and PLAY statements if you write a longer piece of music.

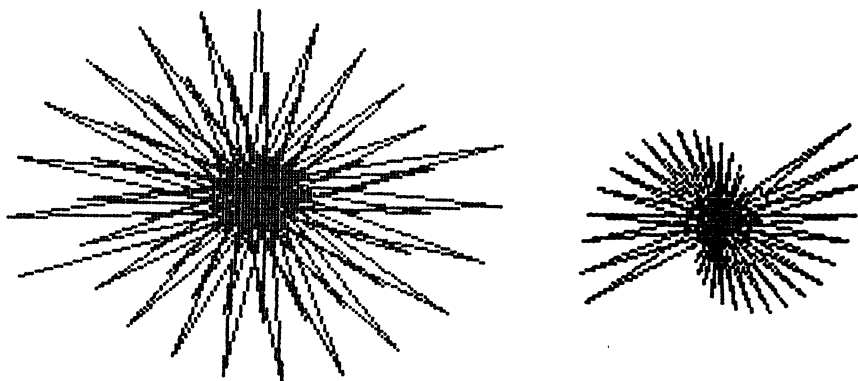
If you have a PCjr, experiment with the additional capabilities it offers. Add chords; vary the loudness of the music. (You can play it through an outside speaker system instead of using the computer's small built-in speaker.)

You Can Be a Computer Artist

Next is a program which draws designs on your screen. For this you need graphics. All PCjr models can do graphics, but if you have a monochrome PC, without a graphics adapter, skip this program.

DESIGN

You may be surprised at the number of very different designs you can get just by making slight variations in the numbers you enter when you run this. We show some examples printed by using IBM'S GRAPHICS program and the dot-matrix printer. If you want to print your computer drawings, you will have to run a graphics printing routine first (IBM's DOS 2.0 or 2.1 disks include one called GRAPHICS.COM).



First try some designs where you put in 0 or just press ENTER when the program asks for GROW. The computer will take either of these as a 0 increase in the length of the side. Try 80 for SIDE and 90 for ANGLE the first time. (You probably will not be surprised by what you get.) Then try 120 for the angle. Or 72. (What do you think you'll get if you enter 45 for the angle?)

Then try the same sort of thing with some larger angles. See what happens with 144, or 150 or 175.

Then you might try some non-zero numbers for GROW. How about 2 for SIDE and 3 for GROW, for starters, to see what happens? (By the way, you can use positive or negative numbers on any of the entries. The results will be different. So try some negative numbers too.)

If you want to speed up the drawing, change line 140. Use a smaller number than 8, which gives you a delay of about $8/18$ of a second. (See your manual under SOUND to see how this works.)

You can enhance this program quite a bit. Add color. (If you have a PCjr, change line 110. Start with CLEAR ... 32768: SCREEN 5: instead of SCREEN 1:—then you will have a choice of 16 colors in your drawings.)

When the program stops drawing, you have a choice. You can press R to resume. Or you can use the PrtSc key (if you have RUN the GRAPHICS program and have an appropriate printer) for a copy on paper. Or you can press any other key to end that drawing.

```

10 WIDTH 40: KEY OFF: CLS:PRINT "This pr
ogram needs BASICA and graphics.":PRINT
"It draws designs.": PRINT: PRINT "To st
op drawing, press any key": PRINT: PRINT
"To resume drawing same design, press R
": PRINT

```

```

30 PRINT "You will be asked to enter:" :
PRINT: PRINT "SIDE (try a number less th
an 100)" "ANGLE (in degrees)" "GROW
(to change side while drawing)": PRINT:
PRINT "Try some numbers."

```

```

110 LOCATE 24: INPUT;"SIDE";SIDE: INPUT
;" ANGLE";ANGLE: INPUT" GROW";GROW

```

```

120 SCREEN 1: CLS: SCALE=1.1163: X=160+S
CALE*.5*SIDE: Y=100+45/ANGLE*SIDE: PSET(
X,Y)

```

```

130 ANGLE=ANGLE*3.14159/180: ANGLEINC=AN
GLE

```

```

140 SIDE=SIDE+GROW: X=X+SIDE*SCALE*COS(A
NGLE): Y=Y-SIDE*SIN(ANGLE):LINE-(X,Y): A
NGLE=ANGLE+ANGLEINC: PLAY"mf": SOUND 300
00,8: SOUND 30000,1

```

```

150 X$=INKEY$: IF X$=""THEN 140

```

```

160 X$=INPUT$(1): IF X$="R" OR X$="r"THE
N 140 ELSE LOCATE 24: PRINT "Another (y
for yes) ?"; X$=INPUT$(1): A=ASC(X$+" ")
): IF A=89 OR A=121 THEN CLS: GOTO 110

```

```

170 SCREEN 0: KEY ON: END

```

This program was originally written for children, but the designs were intriguing enough to prompt many other graphics enhancements and additions. The program is still growing, but in its present incarnation it's too long to serve as an example.

Utility Programs

Next we look at a few short "utility" routines, which are designed to be used in connection with other programs.

For example, I use **KEYSPROG** to assign new values to some of the function keys in a way that suits my needs while writing programs better than the function key definitions provided when BASIC is called ("default conditions").

KEYSPROG

KEYSPROG is a modest self-effacing program. When **RUN**, it does its job, and then gets out of the way so you can start to program. Keys 1 through 5 are essentially unchanged from the way they come up in BASIC, but 6 through 10 have been given different meanings. You might find some other assignments more convenient for your purposes. The program is included to show how you can get whatever you want (up to 15 characters, counting spaces) printed with one keystroke.

```
10 REM KEYSPROG changes function keys
20 KEY 1,"List "
30 KEY 2,"Run"+CHR$(13)
40 KEY 3,"Load"+CHR$(34)
50 KEY 4,"Save"+CHR$(34)
60 KEY 5,"Cont"+CHR$(13)
70 KEY 6,"System"+CHR$(13)
80 KEY 7,"Files"+CHR$(13)
90 KEY 8,"Return "
100 KEY 9,"Gosub "
110 KEY 10,"CHR$("
120 KEY ON: NEW
```


KEYSLETR

When you're writing letters, it would be convenient to type frequently-used words or phrases by simply pressing one function key. (After all, you are no longer limited by what a typewriter can do.) For example, consider the following:

```
10 REM ** This is just a sample. You can  
   put your name, address, or phone number  
   on function keys for letter-writing.
```

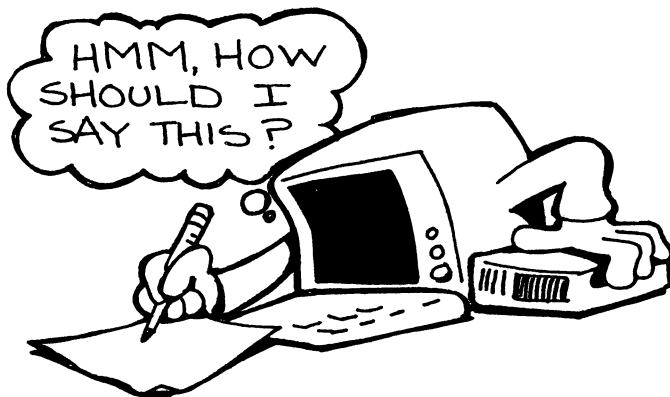
```
20 KEY 5, "Get More from": KEY 6, " your I  
   BM PC ": KEY 7, "-- or PCjr and"
```

```
30 KEY 8, " Save Money.  ": KEY 9, " Yours  
   truly, "
```

```
40 KEY 10, "  Ada Booth"
```

To see how it works, type in lines 20, 30, and 40. Then RUN. Then, in succession, press function keys 5, 6, 7, 8, 9, and 10.

We don't suggest that you copy these particular phrases! Use your own. The only limitation is that you can't have more than 15 characters, counting spaces, per key.



DAYOWEEK

Following is a short routine which can be used as it stands, to find what day of the week corresponds to any date. People are often interested in learning what day of the week their birthday will fall on in some future year, or on what day of the week they were born.

The working part of this program can be incorporated as a subroutine into a program where it is important to check day of week.

```

230 CLS: PRINT "You will be asked for MO
NTH, DAY, YEAR - in numeric form" "
DON'T abbreviate the YEAR":PRINT

235 INPUT;"No. of MONTH ";MO: INPUT;" D
AY ";DAY: INPUT;" YEAR ";YR

240 FC=365*YR+DAY+31*(MO-1)

245 IF MO<=2 THEN DFAC=FC+INT((YR-1)/4)-
INT(.75*((YR-1)/100)+1)ELSE DFAC=FC-IN
T(.4*MO+2.3)+INT(YR/4)-INT(.75*(INT(YR/1
00)+1))

250 DWK=DFAC+FIX(-DFAC/7)*7

255 DW$="SATURDAY" 1 sp. 3 sp. 3 sp.
      SUNDAY  MONDAY  TUES
DAY  WEDNESDAYTHURSDAYFRIDAY  "
      2 sp. 1 sp.
260 DW$=MID$(DW$,9*DWK+1,9):LOCATE CSRLI
N+2:PRINT "The day was, is or will be a
";DW$:END

```

Note: It is important to space exactly as shown in line 255, since each day is allotted 9 characters for its position.

ALLCAPS

ALLCAPS uses the DEF FN statement to solve a common problem, which is encountered in many contexts. Often, when a program asks the user for some textual ("string") input, it would be helpful to have the material entered in a particular form, so that it can be compared with some other "string". ALLCAPS defines a function which converts lower-case letters to capitals.

```
5 PRINT " ALLCAPS shows how to change t  
he lower-case letters of a string which  
may be a mixture of characters into ALLC  
APS, --- while changing nothing else."
```

```
10 DEF FNU$(C$)= CHR$(ASC(C$+" ") + (C$>  
CHR$(96) AND C$<CHR$(123))*32)
```

```
50 PRINT: PRINT "Enter anything (up to 2  
55 characters)":PRINT: LINE INPUT I$: GO  
SUB 1000: PRINT: PRINT I$: END
```

```
1000 FOR I=1 TO LEN(I$): MID$(I$,I,1)=FN  
U$(MID$(I$,I,1)): NEXT: RETURN
```

Line 10 defines FNU\$, which converts any single letter into upper case, if it isn't already capitalized. If more than one letter is involved, you send the string to the subroutine in 1000 to capitalize the entire text.

Here is an example of how this would be used. Suppose you have a list of members of some group in an alphabetized file. If you store them all in upper case, then when you want to compare with some other data or add to the list, re-sorting at the same time, it's nice not to have to worry about reminding people that they must type in capital letters. It's hard enough to make sure you type names in right, without worrying about upper and lower case.

This is clearly a very common problem, since various questions and solutions keep showing up in club newsletters and letters to magazines. Most of the proposed solutions have some other drawbacks. This DEF FN approach seems to work pretty well, with a minimum of complications. No PEEKS or POKES are required. It can be used in a routine which arranges a list of entries in alphabetical order.

ALPHSORT

ALPHSORT, which follows, illustrates the use of several features of BASIC statements, in addition to alphabetizing a list of entries. The actual sorting routine ("sort" means put in some desired order) is done by only three program lines: 140, 150, and 160, which assume a list already available, the "string array" A\$(100), with room for 100 entries of up to 255 characters each.

If you need to work with a longer list, simply change the 100 in DIM A\$(100) to some larger number. This is a very simple and rather slow sorting technique. If you had a long list of items, you would want to use a more sophisticated approach, but for a reasonably short list this works perfectly well. Try it. Then read further for more comments.

```
10 DEF FNU$(C$)=CHR$(ASC(C$+" ") + (C$>CHR$(96) AND C$<CHR$(123))*32)
```

```
100 KEY OFF: DIM A$(100): DEFINT I-L
```

```
110 I=0: CLS: PRINT "Enter items to be a  
lphabetized."
```

```
120 PRINT "When no more, simply press en  
ter key.": PRINT
```

```
130 LINE INPUT "? ";A$: IF A$="" THEN L=  
I ELSE I=I+1: GOSUB 1000: A$(I)=A$: GOTO  
130
```

```
140 FOR I=1 TO L: FOR J=I+1 TO L
```

```
150 IF A$(J) >= A$(I) THEN NEXT J
```

```
160 IF J>L THEN NEXT I ELSE SWAP A$(I),A
$(J): GOTO 150
```

```
165 I=1: CLS: PRINT "List is alphabetize
d, all capitals": PRINT
```

```
175 WHILE CSRLIN < 24:PRINT A$(I): IF I>
=L THEN LOCATE 25: PRINT "List done. Pre
ss any key to end program";:X$=INPUT$(1)
: KEY ON: END ELSE I=I+1: WEND
```

```
180 LOCATE 25,5: PRINT "Press any key fo
r more";: X$=INPUT$(1): CLS: GOTO 175
```

```
1000 WHILE LEFT$(A$,1)=" ":A$=MID$(A$,2)
: WEND
```

```
1010 FOR K=1 TO LEN(A$): MID$(A$,K,1)=FN
U$(MID$(A$,K,1)): NEXT: RETURN
```

Line 1000 is needed only to guard against the user's accidental entry of a space before typing in an item. It removes any blanks at the beginning. Lines 165 to 180 take care of the presentation of the result on the screen, to make sure only an appropriate amount is printed at once. (If you were printing the result on paper, you wouldn't need these at all. You would substitute an instruction like FOR I=1 TO L: LPRINT A\$(I): NEXT.

If your list were in a file, and you wanted to add or delete items, you would start by OPENing the named FILE for INPUT and add a line (say 105) where you read the file into the string array (look this up in your manual—A\$(100) is a string array).

If you wanted simply to alphabetize a list, but did NOT want to change the items of the list in any way, you could accomplish that purpose by adding a second array B\$(100). The following lines would be changed:

(In line 165, delete “, all capitals”)

```
125 DIM B$(100)
```

```
130 LINE INPUT "? ";A$: IF A$="" THEN L=
I ELSE I=I+1: A$(I)=A$: GOSUB 1000: B$(I
)=A$: GOTO 130
```

```
150 IF B$(J)>=B$(I) THEN NEXT J
```

```
160 IF J>L THEN NEXT I ELSE SWAP A$(I),
A$(J): SWAP B$(I),B$(J): GOTO 150
```

```
165 I=1: CLS: PRINT "List is alphabetize
d": PRINT
```

But enough about alphabetizing. (You can also arrange numbers in size order, in a somewhat similar, but easier fashion.)

How About a Simple Game?

DRIVE can be played on any member of the PC family of computers. It requires BASICA but does not need graphics or color. If your system includes graphics or color, adding them would certainly be an enhancement.

DRIVE was adapted, with many changes, from a game called RACEMAN whose source, I think, was originally an article in a computer magazine. Again, it was written for children, but adults seem to enjoy it too. It tests your coordination at keeping your "car" between the boundaries of a road which keeps moving. You use the left and right cursor keys to change the position of your car, as you drive down the screen.

After watching children impatiently waiting for turns, I added a feature which automatically stops the program after the player has had five trips. That makes a good signal that it's someone else's turn to RUN the program.

DRIVE

10 'DRIVE is game program

100 SCREEN 0,0,0:WIDTH 40:KEY OFF:CLS:LOCATE 5,13,0:COLOR 15:PRINT"D R I V E !"
:COLOR 7

110 PRINT :PRINT :PRINT"Keep your car on
the road.":PRINT"Use LEFT cursor to move
left; RIGHT for right."

160 PRINT:PRINT "Press SPACE BAR to start":X\$=INPUT\$(1)

190 RANDOMIZE VAL(MID\$(TIME\$,7))+1:CLS:M=0:X=0:ROAD=12:B1=15:B2=B1+ROAD:T=20:SPEED=10

220 C\$=INKEY\$

250 ON ERROR GOTO 1000

260 KEY(12) ON:KEY(13) ON

300 ON KEY (12) GOSUB 430

310 ON KEY(13) GOSUB 440

330 PRINT TAB(B1)D\$ TAB(T)CHR\$(232) TAB(B2)D\$:FOR I=1 TO 10*SPEED:NEXT

340 IF B1>=T OR B2<T THEN LOCATE CSRLIN-2,T:COLOR 15:PRINT CHR\$(178);:GOTO 600

350 PLAY"MB"

360 SOUND 250-20*SPEED,5

```

370 A=INT(RND*5)+1
380 ON A GOSUB 410,420,420,420,410
390 ON B GOSUB 470,460
400 M=M+1:IF M>50 THEN ROAD=11:SPEED=8:IF
M>75 THEN ROAD=10:IF M>100 THEN ROAD=9
:SPEED=5:IF M>200 THEN ROAD=8:SPEED=3:IF
M>250 THEN ROAD=7:SPEED=0
405 GOTO 300
410 B=1:RETURN
420 B=2:RETURN
430 T=T-1:RETURN
440 T=T+1:RETURN
460 GOSUB 550
470 R=VAL(MID$(TIME$,7)):Y=INT(RND(R)*3)
+1
480 IF X=Y THEN 470
490 X=Y
500 D$=CHR$(177)
530 GOSUB 550
540 RETURN
550 B1=B1+X-2
560 IF B1<1 THEN B1=1
570 B2=B1+ROAD
580 IF B2>30 THEN B1=30-ROAD:GOTO 570

```

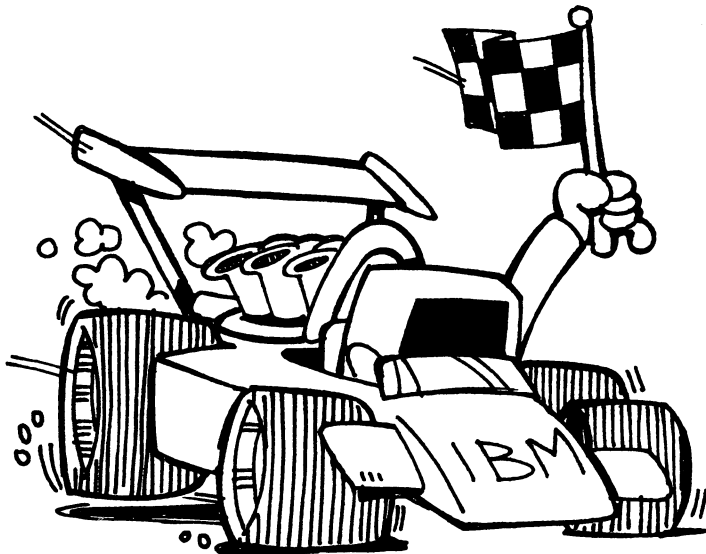

590 RETURN

600 SOUND 50,0:PRINT " !! CRASH !!":PRINT
SPC(39):FOR I=1 TO 10:SOUND 90+2*I,2:N
EXT:FOR I=1 TO 3:PLAY"L8ML02EF#":NEXT:CO
LOR 7:J=J+1:SCORE(J)=M

630 PRINT "You scored"M"points this time
." :IF J=5 THEN PRINT"Earlier scores were
";:FOR I=1 TO 4:PRINT SCORE(I);:NEXT:END
ELSE PRINT"Try again ? (press y)":TR\$=I
NPUT\$(1)

710 X=ASC(TR\$):IF X=89 OR X=121 THEN 190
ELSE WIDTH 80:END

1000 IF ERR=5 THEN PRINT "This program r
equires BASICA":LOCATE CSRLIN+3,10:PRINT
"Return to SYSTEM, then run the program
under BASICA":LOCATE CSRLIN+5:END



MINE, another game which does not require graphics, was adapted from a program on a club library disk. Changes to make it more suitable for small children included adding a choice of desired speed as well as density when the game starts.

MINE

```
1 SCREEN 0:CLS:WIDTH 40:PRINT "MINEFIELD
. Down arrow represents Player.""Use left
t and right cursor keys to move""Down Ar
row to avoid rising mines"

10 DEFINT A-Z:KEY OFF:M=1

20 S=20:T=-18

30 LOCATE 5,1:INPUT "Minefield density (
1-10):",M$:INPUT "speed (1-3):",S$

40 IF VAL(M$)<>0 THEN M=VAL(M$):IF VAL(S
$)=3 OR M>3 THEN SPEED=0 ELSE SPEED=1.5-
VAL(S$)*.5

50 COLOR 3,0:LOCATE 23,1:PRINT "!";:LOCA
TE 23,39:PRINT "!"

60 COLOR 7,0:FOR I=1 TO M:X=RND*36+2:LOC
ATE 23,X:PRINT CHR$(15);:PLAY"mf":SOUND
30000,SPEED:SOUND 30000,.5:NEXT

70 T=T+1:LOCATE 25,1:PRINT T:I$=INKEY$

80 IF I$=CHR$(0)+CHR$(77) THEN S=S+1:SOU
ND 1000,.5 ELSE IF I$=CHR$(0)+CHR$(75) T
HEN S=S-1:SOUND 1000,.5

90 P=SCREEN (5,S):IF P<>32 AND P<>0 THEN
110
```

```

100 COLOR 7,0:LOCATE 5,S:SOUND 200,.5:PR
INT CHR$(25):GOTO 50

110 IF S>5 THEN S=S-5

120 COLOR 15,0:LOCATE 5,S:PRINT "<<< ZAP
! >>>";

130 FOR X=1000 TO 1900 STEP 100:SOUND X,
.5:NEXT

140 FOR X=1 TO 10:SOUND 500,.5:SOUND 100
0,.5

150 FOR DV=1 TO 100:NEXT DV:NEXT X

160 LOCATE 25,1:COLOR 0,7:PRINT "SCORE:"
;T;:COLOR 7,0

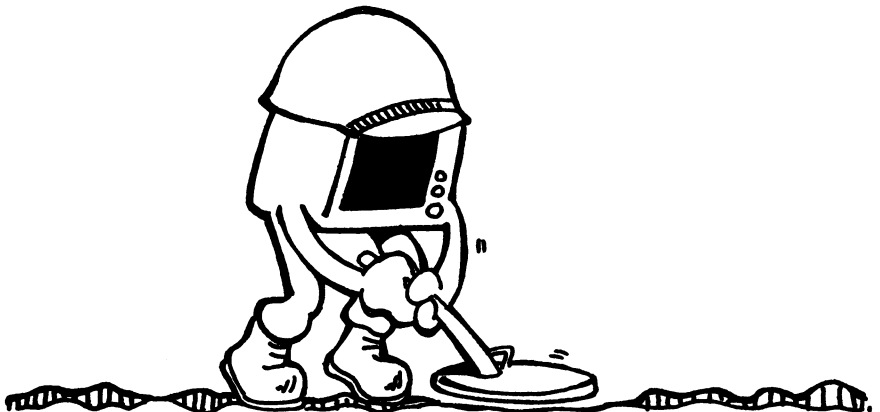
170 LOCATE 24,1:WHILE INKEY$<>"":WEND

180 PRINT "Press 'P' to play again...";

190 Q$=INKEY$:IF Q$=""THEN 190

200 CLS:IF Q$="P" OR Q$="p" THEN 20

```



APPENDIX A

RBBS-PC VERSION CPC12.1E—(compiled)
OPERATING AT 300 BAUD, NO PARITY, 8 DATA BITS, 1 STOP BIT.

* Use <Ctrl K> to abort, <Ctrl S> to suspend *

```
* * * * *
*               W E L C O M E               *
* * * * *
*       RBBS-PC Bulletin Board in Desoto, Tx       *
*               24 Hrs.-7 days/week               *
*               300-450-1200 BAUD                   *
*               SYSOP: Mark Collard                 *
* * * * *
```

This BBS is primarily for the IBM-PC, but all are welcome to browse around, leave messages, upload, download, and read the bulletins. I'm interested in your comments on how to make this BBS more useful and enjoyable for you.

E N J O Y ! ! !

Miscellaneous Notes from the SYSOP on 1/5/83

.....

The password function is now fixed. Feel free to change your password if you like.

More? I've added a bulletin relating to Amateur Radio and would y like for you to give me some feedback on what you would like to see in this bulletin.

Time Limitations

.....

The bulletin board is getting so busy that we need to limit access to 45 minutes during the hours of 6:00 A.M. to midnight. Thanks for your cooperation!

>>> SYSTEM CONFIGURATION <<<

Just thought you might be interested in what makes up this system.

Hardware
: : : : : :

IBM PC - 576K Memory - Two double sided diskettes
Hayes 1200 Smartmodem - Epson MX 80 printer

Software
: : : : : :

More? y

The software, RBBS—PC, is public domain software. There are about 11 revisions in circulation. The Capitol PC Users Group in Washington has made the majority of the revisions and is the “official” source of the program. If you’re interested in getting a copy, contact the Capitol PC Users Group.

The following Bulletin Boards keep the latest version available for downloading.

703/759-5049 Great Falls, VA
415/689-2090 Concord, CA

>>> NEW CALLERS - HERE'S WHAT TO EXPECT <<<

You are reading the “WELCOME Message”. I change it a little about every week or so. There are usually about 4 or 5 pages (23 line screens full) to the Welcome message. If you don't want to read it enter a CTRL-K (^K) while it is printing or enter a “N” in response to the “More?” prompt that is displayed at the end of each page.

More? y

After the “Welcome message” is finished you will be prompted to enter your FIRST name, LAST name, City and State you're calling from, type of computer you're using. Finally you'll be asked to enter a password. You make up your own password, and make sure you remember it for the next time you call. You will now be shown a list of System Bulletins that you may read. If you don't want to read these now you can always read them from the MAIN MENU. You get to the MAIN MENU by pressing your ENTER key or carriage return at the FUNCTION prompt for the

SYSTEM Bulletins. Some additional information will then be printed before you get to the MAIN MENU. This will happen only the first time you call. There are only two menus: MAIN MENU and FILES MENU. Type "H" at either menu to get an explanation of the commands. You shouldn't have much trouble. Have fun!

>>> SYSTEM USAGE & TIPS <<<

It's frustrating when you try to call and all you get is a busy signal. To make it a little easier to get on, let's try operating under the following guidelines:

1. Limit calls to 45 minutes
2. Limit yourself to no more than 45 minutes

More?

of usage during 6 A.M. to Midnight

3. Don't immediately call back a second time after you've timed out on a call.

: : : :

At the end of each page that's displayed on your screen there is a prompt, "more?". You can hit your enter key instead of typing in "yes". If you don't want more then enter "n".

: : : :

There are gaps in the number sequence of messages because they are "killed" when they are no longer needed. When you want to read a group of messages try entering the starting message number and then a "+". That way you can read all messages after the starting number and you don't have to keep entering message numbers that don't exist.

: : : :

You can also read messages backward by specifying the starting message followed by a "-".

Please “kill” your messages after reading them unless they would be of interest to the others.

>>> Uploads <<<

More?

Thanks for the uploads! I'll try to keep enough room to handle the files you want to upload. Occasionally, there may not be enough room, but I'll try to keep space available.
A few things to remember about uploads....

- a) Save BASIC programs with the "A" option before transmitting them to the BBS.
- b) Don't send any copyrighted programs, only Public Domain
- c) Send a .DOC file on how to use the program or use Remarks in the BASIC code to describe the operation.
- d) Make sure you have "Messages" turned off in your communications software.

>>> Please leave me a Comment if you have suggestions <<<

Thanks for Calling!

```
What is your FIRST Name?  ada
And your LAST Name? booth
Checking User File...
```

What type of system are you calling from? IBM PC
What CITY and STATE are you calling from? SANTA CLARA CA
ADA BOOTH from SANTA CLARA CA
Is this correct? Y

Type in a message security PASSWORD (not IBMPC) ?
Type in PASSWORD again for security double check?

ADA, please remember your password for the next time you call.

Logging ADA BOOTH to disk ...

* Use <Ctrl K> to abort, <Ctrl S> to suspend *

System Bulletins : : : : : : : : : : :

1. CQ... CQ... CQ... DE KA5SDT
2. RBBS-PC Communications Parameters
3. Computer Graffiti
4. Description of XMODEM PROTOCOL
5. Description of 450 BAUD operation
6. My Company, PCM Corp. [propaganda!]

Bulletin # <1 through 6, L) ist or C/ R to end>?

Checking message file...

Sorry, ADA, no personal mail for you today.

Entering the message subsystem...

You are caller # -> 6052

of Active msgs -> 119

Next msg # will be-> 206

* Use <Ctrl K> to abort, <Ctrl S> to suspend *

WELCOME! If you are new to electronic
bulletin board systems, the following
information may be useful.

You can skip this by typing a control K
Which is done by pressing both the

control and the K keys at once. It may take a bit for the printing to stop, it may type 100 characters or so before it gets done!

This system operates similar to most of the other systems. It allows you to read or leave messages, upload or download files, and read bulletins.

Message Functions

::::::::::::::::::

You may enter, read, or scan messages from the main menu.

Q)uick scan will list the subject line of the active messages

S)can will list From, To, and Subj. of the active messages

More?

R)ead will allow you to read the messages

E)nter will allow you to leave a message. You have the option of making your message public or private.

C)omments are messages that you can leave to me.

Upload and Download of programs and files

::::::::::::::::::

This is the most popular feature of most bulletin boards.

If your communications software allows file transfer (most do) then you can transfer files to and from your system and this BBS.

From the main menu select option F)iles menu. From the file menu you can select L)ist which will list the available download files. Once you've made your selection choose the D)ownload option and follow the computer's prompts. If you have trouble there is a more detailed explanation under the H)elp menu and the ?) download help.

H A V E F U N !

::::::::::::::::::

* Use <Ctrl K> to abort, <Ctrl S> to suspend *

===== FUNCTIONS SUPPORTED =====

- Send and receive messages with password protection
- Download and upload 7-bit ASCII files
- Download and upload 8-bit binary files using XMODEM protocol
- List files available for download with directory number select
- Save caller's expert/ novice, prompt & page length preference
- Save caller's last message read mark and line feed preference
- List personal mail message numbers or says no personal mail
- Quick scan and scan of messages with stacked number option
- Read messages with stacked number or from last message read
- Read SYSOP bulletins from bulletin menu

Time remaining = 37 min.

=== RBBS-PC MAIN MENU ===

B)ulletins	C)omment	E)nter message	F)iles menu
G)oodbye	H)elp	K)ill a message	L)ine feeds
M)sg margin	N)ew baud	O)perator	P)rompt sound
PL)age length	PW)assword	Q)uick scan	R)ead messages
S)can msgs	T)ime	U)erslog	W)elcome
X)pert on/off	#)statistics	?)Functions	!)Personal mail
\$)Nulls			

Function < B,C,E,F,G,H,K,L,M,N,O,P,PL,PW,Q,R,S,T,U,W,X,#,?,!,,\$ > ? F

Entering File Subsystem...

Time remaining = 36 min.

=== RBBS-PC FILE MENU ===

G)oodbye	H)elp	D)ownload a file
L)ist files	M)ain menu	U)pload a file
N)ew files	?) Xfer info	

File Function < G,H,L,N,D,U,M,? > ? L

* Use <Ctrl K> to abort, <Ctrl S> to suspend *

Download Directory
: : : : : : : : : : :

DIR Description
: : : : : : : : : : : :

- 1 Files on Drive A
- 2 Files on Drive D
- 3 Files on Drive B - Contains uploads
- 4 Files on Drive C - Recipes
- 5 Amateur Radio related programs

To list the files on drive A type “L;1”, for drive D “L;2”, etc.

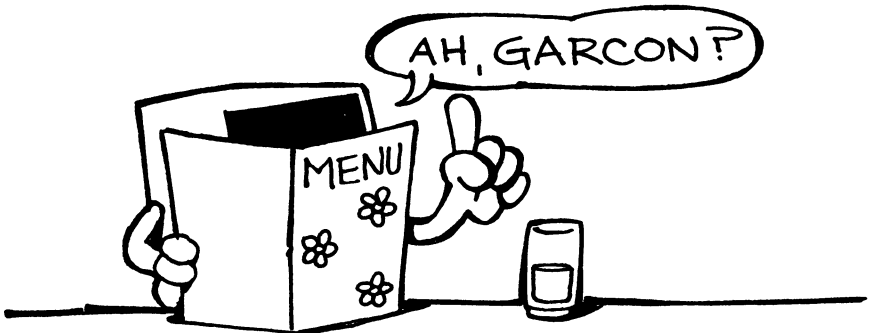
Time remaining = 36 min.

=== RBBS-PC FILE MENU ===

G)oodbye	H)elp	D)ownload a file
L)ist files	M)ain menu	U)pload a file
N)ew files	?) Xfer info	

File Function <G,H,L,N,D,U,M,?>? L;1

* Use <Ctrl K> to abort, <Ctrl S> to suspend *



NAME	EXT	SIZE	DESCRIPTION
747	BAS	33408	747 Flight simulator
747	DOC	8064	Documentation for 747.BAS
ASK	COM	256	Batch enhancement for DOS 2.0
ASK	DOC	1152	Documentation for ASK.COM
ASK	HEX	640	Batch enhancement for DOS 2.0
CALENDAR	BAS	9216	Perpetual calendar
CHESS	EXE	46976	Chess
COM2ASM2	BAS	3009	Convert .COM to assembler code
COM2ASM2	DOC	2162	Description of COM2ASM2.BAS
CONFIG	BAS	2297	Gives installed options on your system
CVTHEX	BAS	4224	Converts .HEX to binary (.COM or .EXE)
CVTHEX	DOC	640	Documentation for CVTHEX.BAS
FINANCEA	BAS	20864	Finance program
HOST	BAS	14104	Host computer program
PC-TALK	MOD	1408	450 BAUD for PCTALK III (See msg. D. Stickle)
PCDOSMOD	TXT	7680	Modify DOS to stay resident 100% of the time
PLOT3D	BAS	2048	Plots a user defined function
PSQUISH	BAS	4736	Compress BASIC pgms. [Fix 6/22 by C. Dixon]
More?			

NAME	EXT	SIZE	DESCRIPTION
SATELITE	BAS	5120	Finds TV Satellite pointing angles - ACROS
SD	COM	1536	File directory Sort
SETKEY	DOC	2432	Documentation on SETKEY.EXE
SETKEY	EXE	31872	Redefine keys
VJRTDISK	ASM	16384	Variable size RAM DISK - Source
VJRTDISK	COM	768	Variable size Ram DISK (10K to 512K)
XREF	BAS	5632	Basic Cross referencer - See next 2 pgms -
XREFM	DOC	1024	Description of XREFM.MOD
XREFM	MOD	3200	Enhancements to XREF.BAS
ZSQ	EXE	19840	Squeeze files for transfer
ZSQ-ZUSQ	DOC	1792	Description of ZSQ.EXE & ZUSQ.EXE
ZUSQ	EXE	13696	Un-Squeeze files squeezed with ZSQ.EXE

Time remaining = 34 min.

=== RBBS-PC FILE MENU ===

G)oodbye	H)elp	D)ownload a file
L)ist files	M)ain menu	U)pload a file
N)ew files	?) Xfer info	

File Function <G,H,L,N,D,U,M,?>? D

Enter full filename to download? PLOT3D.BAS

Download type <X>modem, <A>scii, <Q>uit? A

File size is 16 blocks.

Transfer time: 1 minutes, 14 seconds.

Transfer can be suspended with <Ctrl-S>, aborted with <Ctrl-X>

Ready to send. Open download file then enter <C/R> to start?

APPENDIX B

ASYNCHRONOUS COMMUNICATION

—by **MARK GUZZI**

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Communication between two or more independent computer systems is known as **ASYNCHRONOUS** (literally meaning untimed or uncoordinated) communication. Two distinct types are included in this category, **MODEM** communication and **COMPUTER NETWORKING**. Modem communication has been in wide use for many years, while computer networking is still a relatively new technology.

Although both types involve computer-to-computer communication, major differences exist. Networking allows communication at very high speed between an almost unlimited number of computer systems, while modem communication is usually limited to two systems exchanging information at relatively slow transmission rates.

MODEM communication is loosely referred to as “dialing in.” This means that you call up some other computer over a phone line. Then the signals from your computer are converted into signals that can be transmitted over phone lines. When the signals reach the other system (often a large computer which is referred to as the “host”), they are translated back into computer-understandable form. The host system will respond to you over the same phone line. When you use this method of computer-to-computer communication, you are limited to transmission speeds that phone lines can handle accurately. A reasonably “fast” modem might send 1200 bits per second (equivalent to about four pages of this text material per minute.)

COMPUTER NETWORKING is a very new field in computer science. The basic idea of networking is to connect a large number of separate pieces of equipment (computers, printers, plotters, modems etc.) so they can communicate with each other. In this way, all the users in an office or company can use specific resources or equipment when needed.

This is managed by connecting all pieces of equipment through one “ethernet” cable. Data transmission speeds on the ethernet are extremely fast—about 10 million bits per second, a tremendous increase in speed compared to using telephone lines.

At present, networks are limited essentially to equipment in reasonable physical proximity. They are not yet practical for communication over large distances. Any networks that connect computer systems separated by great distances use telephone lines to communicate. These networks then become subject to the same transmission speed restrictions that apply to all modem communication.

Modem Communication

Modem communication requires five basic components: a sender, a receiver, two modems (one for the sender and one for the receiver), and a medium of transmission (usually a phone line).

For the rest of the discussion, you, the reader, will be considered the sender. Before going any further, we will define a few terms:

1. **MODEM**—a device that translates signals from the computer to signals that can be sent over a phone line.
2. **BAUD**—number of “bits” per second. (8 bits = 1 character).
3. **HALF DUPLEX**—signifies that the modem can communicate in only one direction at a time.
4. **FULL DUPLEX**—2-way communication: the modem can transmit and receive data at the same time.
5. **ACOUSTIC COUPLED**—the modem communicates by converting computer signals into audible sounds that are “heard” by the receiver of the telephone. The modem “listens” to the sounds that are returned from the telephone receiver and relays them to the PC.
6. **DIRECT COUPLED**—this kind of modem is connected directly to a telephone line; the signals do not have to go through the telephone receiver. Many modems allow you to dial from the PC (“autodial”).

Some other terms which are used in the following explanation will be defined when we get to them.

All right. Assume that you have a modem and also have the necessary supporting hardware and software, what is the first step in connecting to a distant computer? It is not dialing the “host” computer and trying to log in. Your PC must be set up so that the other computer can understand the signals that your PC is generating. For example, you must know the baud rate at which the other computer expects data to be transmitted. Often, the host computer to which you want to “speak” is set up to accept any rate up to 1200 baud. It will automatically sense and accept your sending “parameters” (the descriptions of your transmission methods).

What other parameters do you have to set at your end? Often, to guard against transmission errors, a procedure called “parity checking” is used. What does this mean?

Your computer sends information by what is called binary coding. Each “bit” of information is a signal which can have one of two states (like ON or OFF, a one or a zero). Then each letter or number can be represented by a unique sequence of ones and zeros. All the different letters of the alphabet, punctuation symbols, or numerals, can be represented by unique sequences of eight bits, often called a “byte” or “word”. Parity checking involves adding the eight bits (individual ones or zeros) of each data “word” transmitted to determine whether the total is odd or even.

Suppose you are using even parity checking (transmission parameters E 7 1). The so-called “word” you send really amounts to only one character like a single letter of the alphabet. In this very small bundle of information, the first 7 bits represent the actual data you want to transmit. If the sum of those 7 bits is even, a zero is sent in the eighth position. Otherwise the eighth bit is a one, to ensure that the sum of all eight bits will be even. At the other end, the receiving computer checks each sum to make sure that it is even. This “parity check” makes it extremely likely that errors would be caught, since occurrence of two separate cancelling errors in such a small period of transmission would be very rare.

Another parameter which is involved is the character used to determine the end of a line of text. Some systems use a <CR>, carriage return, others use <LF>, line feed, and some systems will accept either. All these things should be taken care of in your communications software, preferably more-or-less automatically, without your having to worry about them. (That is where the “default” conditions come in for the most common transmission types.)

Now that all the communications parameters have been set to match the two systems, you are ready to dial-in. Your PC will now function as if it were an ordinary terminal connected to the host—if that is what you want. But you can do much more than that. You can switch between “terminal” mode of operation and computer operation at will. You can send a file from the PC to the host system, or copy a file from the host to your PC. You can transmit messages in both directions.

You now have a convenient way to transport programs or files from one system to the other. It should be remembered, however, that if you are transferring a very large file, it might take a long time, since you are limited by the speed of the modem. At such times it is particularly convenient to be working in your own home or office because you may leave your PC unattended while you do some other work, grab a cup of coffee, talk to friends, or watch a little TV.

File transfer capabilities are especially useful to a business that is dependent on several different computer systems for information. The PC is versatile enough to connect to most computer systems, and the file transferring options allow all the data that you receive to be stored on your disks.

Networking

Networking is a relatively new technology that allows a large number of computer systems to be connected together. Networking permits the sharing of resources like hard disk drives, large printers, graphics plotters, etc. The network also allows high speed communication between all the computers of the network. These systems are gaining popularity among businesses and schools because they provide many of the functions of a large computer system at a lower cost.

Conceptually, a network is very simple. The basic component of the network is a single cable which connects all the “nodes.” PCs, printers, disk drives, and large computers all qualify as nodes. All the nodes communicate with each other over this single cable.

For example, if you wish to print one of your files on a networked printer, your PC creates a “package” of information and broadcasts it over the

network. When the printer receives your message through the cable, your file will be printed. But the package of information that you sent out over the network cable is received by all the nodes on the network. How does the printer know that it should print the file you have sent it and not print the file that you have sent to the hard disk? To answer this question, we must know more about how the nodes are connected to the network.

As stated before, the network is a continuous cable that connects all the nodes on the network. To attach a node to the network, the cable must be broken and a “T” connection made to the new node. The cable enters through one side of the T and exits from the other side so that a continuous line through the network is maintained. The tail of the T connection attaches to a network card. If the node is a PC, an appropriate card is inserted into one of the serial connectors in the PC in the same way a memory expansion card or any other expansion card is inserted.

This card has been assigned a permanent 64 bit address. Under normal circumstances, the PC node will respond only to information “packages” that are sent to its address. Using 64 bits for the assigned address allows billions and billions of different combinations, enough to ensure that even if everyone had thousands of computers, there would be no duplicate addresses.

How can an ethernet increase the power and versatility of the PC? The particular ethernet system described here as an example is the 3COM ETHERNET. Its software has been designed specifically for the IBM PC. This network system allows all PCs to work independently if desired; it also provides for common printing facilities, an electronic mailing system, and hard disk allocations, both public and private. The network requires one or more “servers” to control these facilities. A “server” is a sort of traffic-controlling computer. It must have both the processing power to run the required software and a large amount of “fast disk storage” (information can be obtained from the disk or put on the disk quickly). Either an IBM PC-XT or a 3COM “smart” fixed disk may function in that capacity.

When determining who has access to the network, the ethernet functions like a full size computer. A user name must be created for you on the network. Then to gain access to the server, you must log in. When this has been done, you may use the server to create files, run programs, print files

or send mail. All these functions are performed using three ethernet programs: ES (ethershare), which controls user names and logins, EP (etherprint), which handles print requests on the network, and Ethermail, which sends and delivers messages between network users.

The first order of business is the creation of your user name. A new user name may be created by any current user on the ethernet.

Once the ES program has sent your request for a new user name, the server will receive the request, create the user name and send a confirmation back to the requesting PC. After the process is complete, the ethernet server will recognize you, and from then on, you will be allowed to log in. (Although it is not required, you can set a password to avoid unauthorized use of your name. In that case, you will have to supply the correct password to gain access to the system.) Now you will have the ability to use information and work as if you had six disk drives on your machine instead of only two. But there is another advantage in addition to the extra capacity.

As PC owners are well aware, a normal floppy disk spins only when something is being read from or written to the disk. Before anything useful can be done, the floppy must spin up to operating speed, and its operating speed is quite slow. The server disk spins at a constant rate of 3600 rpms, and can respond to read and write requests thousands of times faster than a floppy disk. The server gives almost instantaneous response time for the additional capacity that it provides. 320K bytes of memory (the equivalent of one double-sided, double-density diskette) can be copied or transferred in a tiny fraction of a second. Another useful feature is that you can work with “volumes” on the server of any size from 64K bytes up to 32000K bytes (32 megabytes)—a great advantage if you are working with programs or data that are too large to fit on a standard floppy.

You can create these “volumes”, specifying the size you want, and whether your “volume” is to be private, public, or shared. (If a volume is classified as private, only one user can be linked to it at a time and access is gained with a password. A public volume can be read by many users, but modified only by the owner of the volume. A shared volume may be accessed by more than one user at a time.)

These network features result in increased speed, versatility and file protection for the PC user.

Printers are another resource that may be shared. Use of the ether print software in conjunction with a server allows files to be sent from the PC to a printer node on the network. With the PC standing alone, the printer must be connected directly to the back of the PC. The network allows one or two printers on the net to be available to all users. It also means that you are not limited to IBM PC compatible printers. One or two full size printers may be connected on the network to handle the diverse printing needs of many PCs and users. Once logged into the server, all you have to do to print a file is use the appropriate command.

You can establish a link to a particular printer on the server, or can even communicate with a different server which has a printer you prefer.

Again, the network provides greater versatility than a stand-alone PC. With two servers on the network, it becomes possible to send one file to a high-speed printer, send a memo file to a letter quality printer, and send a specially formatted file to a graphics printer—all from the same PC! Furthermore, the same BASIC LPRINT and <PrtSc> that are used when the printer is directly attached to a PC can be used in exactly the same way when the PC is linked to a printer via the ethernet.

When you issue a print request, the file is copied onto a temporary file on the server. It is held there for 30 seconds so that additional print requests from the same user may be done together.

The server queues the file to be printed. If the requested printer is not busy, the file will be printed immediately; if it is busy, files will be printed on a first come first serve basis.

Another feature of a network that is impossible with the stand-alone PC is the creation of an electronic mailbox for every user on the network. Each user's messages are stored in the server until the Ethermail program is run. This may be one of the most convenient features of the network. When reliable electronic mail has been established, it soon becomes both the most convenient and the preferred mode of communication among the regular network users.

There are several reasons for the popularity of electronic mail. One, it is very convenient to use if you work on the computer a great deal; you never

have to leave your PC to read, answer and send all your messages. Second, the mail has the fastest delivery time possible, less than a second over a local network. Third, reliability: your messages cannot be buried under the paper mountains that frequently spring up on some desks. Your mail cannot accidentally wind up at the other end of the country because the zip code was read incorrectly, and unless you also happen to misplace your server, you never have to try to remember what you did with your memo pad.

Like regular mail, each electronic letter must have a correct mailing address which corresponds to a user name on a server, and a return address. It is also possible to send copies of the message to other users by including their user names in the CC: (carbon copy) field of the message header. The server will postmark the message with the current date and time.

To use ethermail, you must log in to the ethernet server and create a mailbox to receive your messages. All messages sent to you will be delivered to your mailbox. You may also write messages and save them for later mailing within your mailbox. This mailbox is really a new volume that is created on the server. The contents of the volume are examined each time the mailing program is run. The mailing program also provides for archiving and filing messages on disk or printing them for conventional filing.

The network and its supporting software greatly expand the capabilities of the PC. However, the system does present some problems and annoying restrictions. Since the ethernet consists of a single cable attached to all nodes, this cable must be a single unbroken line. If one connection from the back of one PC becomes disconnected, the entire network ceases to function. This also means that it is necessary to turn off the ethernet if you wish to add a new node or remove an existing one. Although these restrictions can sometimes be annoying, they can be accommodated. Security of network transmissions presents a more serious problem.

As stated above, every node on the network receives all the data packages that are transmitted over the network. The software and hardware insure that only the addressed node responds to these transmissions. But nothing prevents eavesdropping on all transmissions. If confidential data is being transferred over the ethernet, that data is not secure. It is not very difficult to write listening programs that record all network traffic. To protect such

data, encryption would have to be done before the file is transferred to the server and decoding would have to be done before the file could be used.

Computer networking has already had significant impact on the computer industry, and the influence of this new technology will continue to expand. Networking is not without complications or problems, but this is always the case with a new technology.

New developments will continue to expand the capabilities and reduce the limitations of networking. It may soon become possible to assign different parts of a very large job to several PCs on the network. The network would allow the PCs to share common data and communicate with each other upon the completion of their assigned tasks. Making several small computers do the work previously done by one larger computer is the current trend in computer science. This trend can be expected to continue for some time; and as it progresses, so will the capabilities and flexibility of the PC.

Technical references:

EtherSeries User's Guide
3COM EtherSeries
Version 2.0, July 1983.

UPDATES

***IBM PC and PCjr UPDATE '84
2325 Paragon Drive
San Jose, CA 95131***

In a sense, the readers of this book constitute a large, diverse and informal Users' Group.

We know that in a rapidly-changing field like this one, it is important to keep up with the changes as they occur. For that reason we plan to update this book regularly and we would appreciate your input and help, to keep the information as current and complete as possible. All contributors to UPDATES will be listed in the acknowledgement section of the revision which contains their contributions.

Users' Groups

If your group isn't listed in our directory, or addresses have changed, please let us know. If your club publishes a newsletter, we'd like to be on your mailing list.

Computer-To-Computer

New bulletin boards, new phone numbers, comments on telecommunications software or equipment, new uses and facilities . . . any information that will help keep readers up-to-date in this rapidly growing field.

Free Software

We know there are many more useful programs out there. We all probably wind up "reinventing the wheel" when we hit a problem, just because we don't know that someone else has already come up with a solution to the same difficulty. We can help ourselves and each other by sharing information.

User Supported Software

This can become an even more valuable resource, as more authors and more users learn about this new idea. (The first update on this topic appears in the following pages, courtesy of the Silicon Valley Computer Society.)

Additions and Corrections

Everything changes rapidly in the computer field. If you find errors or outdated information, we'd like to know so that we can make the appropriate revisions in our next issue.

UPDATES

More User-Supported Software (Try it Free)

The following UTILITIES are also now available from the authors:

UTIL Version 1.3 by Mutant Software

UTIL is a general purpose collection of utilities for use under DOS 2.0. The author states that the following routines are included:

sd for sorted directory
br list text file on screen
kb allows keyboard redefinitions
db a rudimentary data base routine
tf causes printer to do a top-of-form
mo switch to monochrome display
co switch to color display

System requirements: 128K and DOS 2.0 or higher

Suggested contribution: \$10

Send formatted disk and postage-paid mailer, or check for \$15 as total cost, including disk, mailing, and printed documentation.

Write to: Mutant Software
Program UTIL
P.O. Box 765
Bellaire, TX 77401

PC-COMPARE Version 1.24 by Jeffrey Luther

The author describes this as an ASCII/text file compare program for any of the DOS 1 or 2 versions.

System requirements: 128K minimum memory. Either one or two drives, single or double-sided. IBM/Epson or compatible printer if you want a printout. Monochrome or Color/ Graphics board and 80 column display.

Write to: *PC DESIGN*
P.O. Box 782
Palo Alto, CA 94301

COVER
by Dan Daetwyler

This is a relatively small program, the author says, which he extracted from a much larger package he had written, because he found that he used it so often and that many of his friends also liked it. COVER prints directory listings in a size that will fit in a diskette envelope, to be stored right with the disk.

Daetwyler has put it in the public domain, but offers (for users who don't want to "poke" the code in themselves) to copy his source code for you if you send disk, mailer, and postage. Alternatively, send a check for \$7.50 and he will send the program on a new disk (single-sided, 8 sector).

System requirements: Any IBM PC and IBM/Epson printer (or compatible printer which has compressed type).

Write to: Dan Daetwyler
Route 5, Box 518A
Springdale, Arkansas 72764

If you are an author who wants to put some software in the public domain for others to try out, under the user-supported concept, send the appropriate information about your programs (as in the above abstracts) to the address shown at the beginning of this UPDATE section.

If you are a user who would like to share information about additional public domain software, send us the same kind of descriptive material.

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